BUSINESS WEEK

WEEK

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PUBLISHED BY THE MCGRAW HILL PUBLISHING COMPANY, INC . TWENTY FIVE CENTS

"I'm a business man full of many troubles— MOST OF WHICH NEVER HAPPEN"

"Business is going up." "No, there's going to be a downturn." "Business will go sideways." Listen and take your choice. Or, better yet, don't listen at all.

Predictions never made a thing come true. Worry has caused downfall; hard, intelligent work has brought success . . . There's a choice you can make.

Through 60 years we've noticed that the men and firms who stay in business and continue to be successful are the ones who don't run to excesses in good times, and don't give way to panic in poor times. They keep their costs low, their prices within reason, they keep their heads and their faith.

When profits are easy, these men and

companies are as careful as ever to avoid waste. When profits become losses, they get ready for the next upturn by continuing to improve their plants by modernization—investing in the future of America.

In every industry there is at least one plant managed in this way. It is always the low-cost plant in that industry—it gets the business and the profits. Now is a good time for you to become that plant in your field, before your competitor does. In your turning department, Warner & Swasey field engineers and modern low-cost Warner & Swasey Turret Lathes can help you, and we believe now is the time to do it.

delica

mine



YOU CAN TURN IT BETTER, PASTER, FOR LESS . . . WITH A WARNER & SWARLY



What a way to make a livingtickling dynamite with a stick!

A typical example of Goodrich development in rubber

THIS MINER is "tamping" sticks of dynamite, working them into a hole drilled in the rock which is to be blasted. No wonder miners used to be poor insurance risks! They have to punch holes in dynamite sticks to hold the cap which sets off the charge. Too often the punched hole wouldn't be straight—the delicate, deadly cap would protrude from the side of the dynamite. Then, as the miner forced the dynamite into place the protruding cap would rub against rock, the charge would go off, and that miner would never even be found.

A Goodrich engineer, working with

the safety engineers of mining companies, conceived a little rubber cup or sleeve into which the blasting cap could be slipped. Goodrich already had a special abrasion-resisting rubber, ideal for the purpose.

With the delicate blasting cap in this tough rubber sleeve, even if the hole in the dynamite does expose it, the tough rubber takes the abrasion and cushions the cap inside against any jar that might set it off.

What next? Rubber is a material of growing importance, increasing usefulness. Hundreds of Goodrich laboratory

and technical men keep working not only on new, unusual products but on improvements in old products. These men are never satisfied, never relax their efforts to give you better value every year you continue to buy Goodrich hose, belting, or anything bearing the name of The B. F. Goodrich Company, Mechanical Rubber Goods Division, Akron. Ohio.

Goodrich

Complete Banking Service



A TOWER OF STRENGTH

BANKERS TRUST COMPANY

16 WALL STREET, NEW YORK
FIFTH AVE. AT 44TH ST. 57TH STREET AT MADISON AVE.
LONDON: 26 OLD BROAD ST.

Member of the Federal Deposit Insurance Corporation

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So you're going to build a factory? Or you've been mulling over that possibility? Have you decided to modernize the old plant, add on to it, or build a completely new one? Will your own factory force handle the job, or will you hire outside architects and engineers? Will you use orthodox methods of construction, or do you want to know about all the newlydeveloped methods? Will you use standard materials or do you want to check up on what new materials are being used? Are you certain your plant will have the most suitable walls, windows, doors, floors and roof? To help you find the answers to such important questions, this issue offers as an extra dividend a Report to Executives called "Factories For the 'Forties." The report, starting on page 41, won't make a designer and builder out of you in one reading-it isn't intended to-but it will tell you how other executives are meeting construction problems, furnish you with an intelligent background on industrial construction, and provide you with a battery of helpful suggestions-all the way down to such small but serious problems as how to keep poetry off the washroom walls.

Buyers

WHEN WAR BROKE OUT last summer and Britain and France began to make plans to set up buying agencies in the U.S., it was expected that they would establish

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A McGRAW-HILL

at the Post Office at Alof March 3, 1879, Printed by the McGraw-Hill Pub-

PUBLICATION

agencies were set up, they have worked cooperatively. The French is still the ER

27, 1940

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larger, but the British agency is expanding; and though the French has been the bigger buyer, the British agency is likely to increase its purchases in the spring. What the two agencies have done, and what they're likely to do from now on is in the story on page 15-along with an organizational chart, which shows how the agencies are set up, who is in charge of what division.

Minneapolis Harbor

MINNEAPOLIS can thank St. Anthony Falls for providing her with the water power for her lumber and flour mills, but she also has the falls to blame for the fact that the city isn't able to benefit by the \$140,000,000 the federal government has spent making the Mississippi River navigable as far as the Twin Cities. The 75-foot drop in the falls deprives the city of the level land it needs for good dock facilities. This week, however, the army chief of engineers, in his annual report, had encouraging news for Minneapolis, told Congress \$3,845,500 could be "profitably expended" on the city's upper harbor project-page 18.

Conciliation

WHILE the storm still rages over amending the Wagner National Labor Relations Act, the spotlight falls on the Department of Labor's Conciliation Servicethanks to the rumor that Senator Wagner is considering a new bill to widen the government's role as a conciliator in labor disputes. All of which occasions a look at the present Conciliation Service -its remarkable record, and its apparently rosy future-page 24.

What's More

THERE WERE 9,100,000 radio sets sold in 1939, which made the year the best the industry has ever had. The reasons why -page 30 . . . Frequency modulation, the much-touted new method of staticless broadcasting, is preparing for a scrap with television, has a date to present its case before the Federal Communications Commission on Feb. 28. What it's got to say-page 30 . . . The La Follette Civil Liberties Committee, nearing the end of its \$50,000 appropriation, tried to make a splash with its investigation of open shop labor conditions in Los Angeles; the question now is whether it was a big enough splash to justify funds for a longer investigation—page 26 . . . Cowan & Dengler, New York advertising agency which works for its clients on a fee basis, revives the old row over the standard advertising agency 15% commissionpage 28 . . . How the war has changed our flow of exports-page 56, with three charts to show (1) the effect of the war, (2) how exports of individual commodities compare in 1939 and 1938, (3) what individual export markets did in 1939.



• TEN fundamental reasons to be considered in the selection of antifriction bearings is the subject of a series of booklets, offered free by New Departure, Division of General Motors, Bristol, Connecticut.

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PACKAGING

Specialty Combinations Gain New Winter Business For Ice Cream Manufacturers.

It has long been the desire of ice cream manufacturers to discover some means of preventing the annual nose-dive of the frozen confection sales during cold weather months.

To help ice cream makers enjoy a healthier sales volume on their packaged products during the winter season Sutherland Paper Company, Kalamazoo, Michigan recently introduced two successful ice cream specialty combinations.

Pioneer in the development of many ice cream packages now recognized as standard, Sutherland is producing attractive transparent window and necessary paper molds for ice cream cakes and pies.

Ice Cream Cake

First on the market with a transparent window carton for ice cream, Sutherland

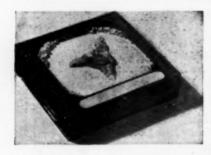


now stresses the visibility feature to show off the tempting goodness of fancy ice cream molds.

A one quart paper mold forms ice cream to cake shape, the cake is placed on the embossed circle, decorated, rehardened, and set in the carton ready for display.

Ice Cream Pie

THE ICE CREAM PIE, also packaged in a square transparent window carton, is molded and sold in the Sutherland metal-



rimmed Bake-A-Pie paper plate. The pie is eight inches in diameter, constitutes approximately one pint of ice cream.

Sutherland's two-panel transparent window carton for ice cream rolls continues as a popular specialty along with ice cream cakes and pies. Shortly, Sutherland expects to bring out another new specialty package for ice cream.

(Advertisement)

NEW BUSINESS

Lawyers Lose

THE MINNESOTA supreme court has decided that real estate men may draw up papers for their clients, but can't take money for it. Two county bar associations got a district court to enjoin a St. Paul real estate man from drafting the instruments necessary to close his transactions, whereupon several real estate groups entered the fight and carried it up to the high court. Supreme court observed, when it handed down the decision, that where the legitimate sphere of the business man ends and that of the lawyer begins had long been a subject of controversy (BW-May21'38,p31), but that this time the lawyers were out of bounds.

Economics On the Air

Anxious to get its research data on economics across to the average man, the Twentieth Century Fund has developed with the National Broadcasting Co. 13 radio programs which the Red Network will air on Wednesday nights, beginning Feb. 7 (11:15 to 11:30 p.m., EST). To put a punch in Twentieth Century's boiled-down information, an every-day problem will be dramatized in a way that is novel for educational broadcasts; then the conclusions will be summarized by an expert furnished by the Fund.

Sailplanes, Inc.

A SAN FRANCISCO advertising man, Albert C. Essig, and some local friends of his (including the presidents of the Douglas, Lockheed, Northrop, and Vultee airplane companies) have bought a San Fernando glider factory from an aeronautical engineer and hired him back to run it. With the government training thousands of young pilots and with the popularity of low-powered planes definitely on the up, Essig and friends believe that youngsters will take to a kind of flying designed especially for them, that, gliders have a mass production future. The new company has been named Bowlus Sailplanes, Inc., after the former owner. As a starter, the plant is being equipped to produce 15 planes a month.

Kansas Strategy

Joseph B. Arvin, international vicepresident of the laundry workers' union, is credited with the idea of disrupting the communication lines of embattled Kansas laundry owners who have not seen eye to eye with the union. His invention, the telephone blockade, has most recently been used by union men who laid seige to a laundry in Kansas City. For nine days the laundry's four telephones were kept busy by union stalwarts 'phoning from the outside. Owners finally got a restraining order from the court and were again in communication with the outside world. Operators in Wichita weren't so lucky. When they went to court to stop a telephone skirmish, they found that Wichita telephones were available for anyone to use as he might see fit, had to grin and bear it.

Copyrighted Figures

WHENEVER a newspaper, magazine, or radio chain wants to know how it's doing in comparison with its competition, it turns to Media Records-for linage totals of almost every metropolitan newspaper in the country-or to Publishers Information Bureau-for magazine and radio dollar volume totals. For a quarter of a century Publishers Information Bureau has been the principal source of facts and figures on periodicals, and for about half that long Media Records has been the only agency covering the daily press on a national basis. This is the season of the year when the business press draws heavily on these exclusive sources of information. They are, for example, the sources on which Business Week drew. with appropriate credit, in the preparation of its roundup article last week on the year in advertising (BW-Jan20'40. p38). Since both of the tabulating companies make their living by the sale of these copyrighted statistics, Business Week readers should be cautioned against the reproduction or any commercial use of the figures published in last week's issue. This applies with particular force to the totals for the 33 individual magazines grossing over a million dollars in advertising revenue last year and to the figures for the million-dollar radio and magazine advertisers.

Nylon Hosiery Progress

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Following the only test sale of Nylon hosiery in Wilmington, Del., last October, when several thousands of pairs were sold, E. I. du Pont de Nemours & Co. has accelerated negotiations with hosiery manufacturers for the use of its Nylon yarns in their products. In February, Holeproof Hosiery Co., Milwaukee, will turn eight of its 230 stocking machines over to the new man-made fiber; Phoenix Hosiery Co., of the same city, will start it on 15 of its 400 machines. Both companies expect the new hose to go on public sale between May 16 and 30. Negotiations with other hosiery manufacturers proceed apace. Meanwhile, du Pont trains its new personnel in Nylon processing, looks forward to an annual production of 4,000,000 lb. of Nylon hosiery yarn. which compares with about 40,000,000 lb. of raw silk spun into hosiery yarn in 1939. Retail prices of the new stockings are expected to fall into the \$1.15-\$1.35 range.

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WASHINGTON BULLETIN

WASHINGTON (Business Week Bureau) _Congress' current economy drive is motivated by individual political fear on the part of members, but its broad effect—as the Republicans gleefully realize—is to hit Roosevelt where it hurts. Many Congressmen wouldn't be nearly so enthusiastic in blasting holes in his 'bedrock" budget, if they didn't think they could thus beat him at his own game. Already he has been forced to come to the defense of two of the New Deal's most valuable propaganda agencies -National Resources Planning Board and the Office of Government Reports.

Defense—or Offense?

OF PARAMOUNT IMPORTANCE are the economies which undermine Roosevelt's pet policies-cuts in the money for new erchant shipbuilding and for Army and Navy expansion, cuts that will tend to discredit his foreign policy. The attack is designed to convince the voters that this policy-always regarded as one of his strongest points—is primarily based on force, that it is a policy which, in the name of national defense, actually brings us closer to Europe's war.

Roosevelt's latest requests for defense appropriations were surprisingly moderate but Congress is making a play to anti-war sentiment, which now dominates the country.

Economy Has Appeal

Economy in an election year is almost unheard of. Voters normally like spending, but some of them are beginning to believe that spending more than you take in every year is cock-eyed, and there are many others who hate the prospect of higher taxes.

In any case, economy is not always what it seems-having made a play to turn the tables on Roosevelt, Congress can repair the damage after election by making so-called deficiency appropria tions and putting through a new tax bill.

Air Show Falls Flat

MANY A GOVERNMENT AGENCY spends big money to lobby more tax money out of Congress. Current example is the Army Air Corps' big exhibition at Anacostia Field here.

Ten million dollars' worth of Wright Field's research equipment, plus a nearly complete lineup of airplane types, were transported to Washington, along with scores of officers and engineers, at a cost that would make the citizen howl if it were published-which it won't be.

This particular selling job, however, didn't go over so well. Congressmen

didn't turn out in the droves expected. For one thing, Senator Borah's death, and its reminder of all he stood for, took some of the wow out of it; then again, Capitol Hill is having economy cramps; and, finally, the British have been rubbing us the wrong way lately and military displays don't go over so

A Going-Over for Navy

BACK OF NAVY SECRETARY EDISON'S SUGgestion for several changes in his department is a strong hint of widespread reorganization of the Navy by Congress. Conflicts among Navy bureaus, differences in policy between Admiral Leahy and Admiral Stark, the old and the new chief of operations, ambiguous phraseology in official reports, which at times has been interpreted by some members of Congress as approaching deception, are being uncovered.

Thoroughly aroused, the Congressional committees are convinced reorganization is necessary, both for the execution of the construction program and for efficient operation of the fleet. Edison is not blamed for the situation, as he only recently came into full authority. But the Navy is in for a thorough going-over, much of which will be behind the scenes for reasons of public policy. Its public relations at the all-important point of contact with Congress are manifestly at low ebb.

Mosquito Boat Squall

BECAUSE THE NAVY wants a tactical squadron of "mosquito boats" in a hurry, Secretary Edison is deaf to protests of boat builders against the award in December of a contract for 23 motor torpedo boats and subchasers of British design to the Electric Boat Co. (BW —Jan13'40,p16). The Navy fervently hopes than when better boats are built United States concerns will build them, but delivery of six motor torpedo boats, due this month, under contracts awarded last June following a design competition, has been delayed.

The Hubert Scott-Paine type was already developed and tested to the Navy's satisfaction. The Elco contract calls for delivery of the subchasers beginning next July and the first motor torpedo boats beginning next October.

American boat builders boast supremacy over the British in high speed racing craft, but the Navy contends that the British have proved their ability to build boats which carry torpedoes, sound gear, etc., at high speeds.

Plane Fuel on "Moral" List?

NEXT ITEM on the moral embargo listwhich now effectively stops shipment to Japan and Russia of aluminum, molybdenum, and equipment to make aviation gasoline-probably will be the hightest gasoline itself. At least one West Coast oil company has been sounded out by the State Department. In addition to the moral embargo, there is a restriction which prohibits the export of planes to nations that "bomb civilians"; that is, Japan, Russia, and Germany.

Super-Tariff Powers

PRACTICALLY UNNOTICED in the glare of publicity given more spectacular issues, the Senate has passed a House-approved bill greatly broadening the President's emergency powers to levy super-tariffs to protect farm products against imports. Designed primarily to prevent a flowback of products exported under subsidy, the bill amends existing law so that "fees" up to 50% ad valorem as well as quotas may be established, after investigation by the Tariff Commission.

A Bill That Will Die

WATCH A DRASTIC import labeling bill die in committee after a brief one-day

TNEC and Steel



Harria & Escina

"The demand for steel is inelastic." With that statement Theodore O. Yntema, an economist from the University of Chicago, made a point for the United States Steel Corp. at the resumption of hearings before the Temporary National Economic Committee on steel prices this week. But that statement also started an argument. For TNEC contends that lower steel prices would mean a greater consumption. U. S. Steel and Yntema say not materially.



... ON YOUR NEXT CONVEYOR INSTALLATION

On any kind and size of conveying job — large or small — get full facts on equipment from a Standard Conveyor Engineer — first!

Their expert counsel, reflecting more than thirty years of conveyor engineering experience, can save you time and money in choosing the right kind of an installation to hold handling costs to a minimum.

Find out why Standard Conveyors offer you more than lower handling costs—because of their sound engineering—durable construction that means years of profitable performance in your plant. There is a Standard office near you—get in touch with them on your next conveyor requirement.

A valuable reference book on conveyors — "Conveyors by Standard"

—is available upon request to plant and production executives.

STANDARD CONVEYOR COMPANY General Offices: North St. Paul, Minn.



hearing promised to its sponsor, Rep. Flannery of Pennsylvania. The measure, next to impossible to administer, would require manufacturers to identify in labels and advertising the country supplying any component part of a manufactured product. Even automobile tires would carry an import label under the bill.

Rumor, But No Sale

SELLING GOLD to private individuals—by establishing a free gold market—and thus (1) saving the government some interest as a result of bonds retired by the proceeds and (2) avoiding the danger of running over the \$45,000,000,000 debt limit, is not on the Administration agenda, despite frequent rumors in New York and London.

High government officials say they do not believe the public would buy gold, even as a hedge against inflation, because individuals would be afraid the government might (1) commandeer gold again, or (2) reduce the dollar price of gold.

Squeeze (Continued)

Another step in the Securities and Exchange Commission's apparently well-matured program to make it hard for utility holding companies to hold subsidiaries (BW—Jan20'40,p18) was taken this week. The commission ruled that all inter-company loans must hereafter pass its inspection.

The holding company's revolving fund, from which subsidiaries borrow on their notes, thus may be on the way out. If so, the holding company would have to buy the subsidiaries' bonds or stocks, and the SEC seems to favor stocks as was demonstrated by the Consumers Power decision (BW—Jan6'40,p18).

Holding companies can't go on putting up common stock money indefinitely unless their income is assured. And the SEC is cracking down on dividends paid to the top companies if there is any sign that the subsidiary is dipping into its capital surplus.

G-Men On the Trail

When members of the Temporary National Economic Committee heard agents of the Metropolitan Life Insurance Co. admit forging proxies in the company's uncontested annual elections, they raised their eyebrows. (Yet they didn't take any testimony from over 100 Metropolitan agents who rushed to Washington at their own expense to say they never had heard of such a thing.)

When the TNEC heard that the Metropolitan had fired the 13 agents who testified, there was fuming and private talk of doing something about intimidation of witnesses. This week it became known that the G-men had been investigating the company's agents in Philadelphia and Newark, indicating that the matter isn't a dead letter yet. To which the Metro-

Toying with Technocracy

TENTATIVELY BILLED for next week is a TNEC study of technology advertised as the most elaborate production since Howard Scott, the technocrat, first popularized the subject. TNEC will assay the benefits of technical progress to consumers, through lower prices, etc., and consider means of increasing and stabilizing employment. This involves analysis of the present unemployment of investment capital, the present pattern of wage distribution, and the feasibility of occupational re-education.

politan counters that it fired the agents on their own confessions of guilt.

Housing vs. Economy

BUDGET ECONOMIZING doesn't endanger an increase in the United States Housing Authority's program, may indeed help to effect a compromise in the House. Without affecting the public debt (since RFC puts up the money), the bill as passed by the Senate would provide \$880,000,000 in new construction to compensate for reductions in relief and public works. And even the \$45,000,000 in additional annual subsidies which the program calls for will not have to be appropriated for two or three years.

45-55 and Default

In case there is an effort to get another appropriation for the PWA on the old and popular 45-55 basis (45% of the cost of the local project to be borne by the federal government), opponents have their ammunition ready.

They are prepared to show that more than 300 municipal and county bond issues, purchased by PWA to finance the applicants' share of such projects, are now in default. The aggregate principal sum involved is \$42,000,000.

Tide-Covered Oil Land

To forestall a "grab" of tide-covered oil lands off the California coast by the government (BW—Nov18'39,p22) Congress may stop Justice Department funds for a search of ways and means. Before he went to the Supreme Court, Attorney General Murphy told the House Appropriations Committee his department is investigating, at the request of the Interior and Navy Departments, the possibility of the U.S. taking over title—by suit or otherwise.

Further information was submitted on demand of Rep. Carter of California, and the attack on the probe was born. Other coastal states are interested, as the seizure of title to property off the California coast would establish a precedent.

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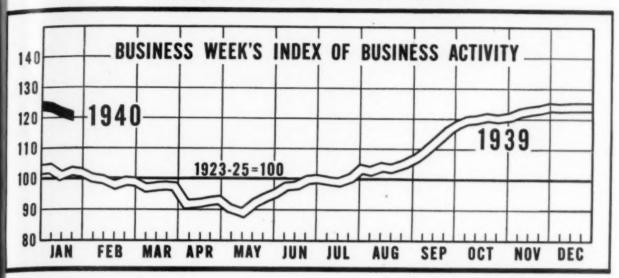
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THE FIGURES OF THE WEEK



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THE INDEX	*122.3	1123.6	125.6	101.9	104.1
PRODUCTION					
Steel Ingot Operations (% of capacity)	82.2	84.8	73.7	60.6	51.2
Automobile Production	108,545	111,330	117,705	47,420	90,205
Residential Building Contracts (F. W. Dodge, 4-week daily average in thousands)	\$3,243	\$3,396	\$4,519	\$4,492	83,544
Engineering Construction Awards (Eng. News-Rec. 4-week daily av. in thousands)	\$8,347	\$9,274	\$8,275	\$7,890	\$13,552
Electric Power Output (million kilowatt-hours)	2,572	2,593	2,641	2,295	2,290
Crude Oil (daily average, 1,000 bbls.)	3,637	3,592	3,868	3,584	3,264
Situminous Coal (daily average, 1,000 tens)	1,662	†1,753	1,451	1,190	1,342
TRADE					
+ Miscellaneous and L.C.L. Carloadings (daily average, 1,000 cars)	68	69	73	68	62
All Other Carloadings (daily average, 1,000 cars)	44	45	40	44	35
Check Payments (outside N. Y. City, millions)	\$4,711	\$4,404	\$5,603	\$4,224	\$4,289
Money in Circulation (Wednesday series, millions)	\$7,405	\$7,463	\$7,679	\$7,022	\$6,066
Department Store Sales (change from same week of preceding year)	+4%	+5%	+6%	+5%	-3%
PRICES (Average for the week)					
Spot Commodity Index (Moody's, Dec. 31, 1931=100)	164.4	165.5	169.6	141.0	143.0
Iren and Steel Composite (Steel, ten)	\$37.07	\$37.09	\$37.10	\$35.86	\$36.37
Scrap Steel Composite (Iron Age, ton)	\$17.54	\$17.67	\$17.67	\$15.13	\$15.00
Copper (electrolytic, Connecticut Valley, lb.)	12.046	12.408c	12.500€	10.250¢	11.250
Wheat (No. 2, hard winter, Kansas City, bu.)	\$0.99	\$1.01	\$1.04	\$0.65	\$0.70
Sugar (raw, delivered New York, lb.)	2.890	2.87c	2.90¢	2.90€	2.826
Cotton (middling %", ten designated markets, lb.)	10.510	10.71	10.646	9.244	8.596
Weel Tops (New York, lb.)	\$1.096	\$1.108	\$1.160	\$0.877	\$0.853
Rubber (ribbed smoked sheets, New York, Ib.)	19.03¢	19.18¢	20.40¢	16.62¢	15.87€
FINANCE					
Corporate Bond Yield (Standard Statistics, 45 issues)	5.63%	8.57%	5.75%	5.64%	5.73%
U. S. Bond Yield (average of all issues due or callable after twelve years)	2.32%	2.28%	2.32%	2.16%	2.45%
U. S. Treasury 3-to-5 year Note Yield	0.40%	0.46%	0.49%	0.44%	0.63%
Call Loans Renewal Rate, N. Y. Stock Exchange (daily average)	1.00%	1.00%	1.00%	1.00%	1.00%
Prime Commercial Paper, 4-to-6 months, N. Y. City (prevailing rate)	36-56 %	36-96 %	36-56 %	36-56 %	36-96 %
Business Failures (Dun & Bradstreet, number)	288	277	249	251	367
BANKING (Millions of dollars)					
Demand Deposits Adjusted, reporting member banks	18,979	18,823	18,923	17,387	16,124
Total Loans and Investments, reporting member banks	23,212	23,131	23,465	22,025	21,439
Commercial and Agricultural Loans, reporting member banks	4,330	4.363	4,406	3,893	3,789
Securities Loans, reporting member banks	1,144	1.170	1,362	1,143	1,360
U. S. Gov't and Gov't Guaranteed Obligations Held, reporting member banks.	11,324	11,177	11,166	10,664	9,914
Other Securities Held, reporting member banks	3,309	3,308	3,367	3,245	3,235
Excess Reserves, all member banks (Wednesday series)	5,500	5,380	4,900	4,485	3,559
Total Federal Reserve Credit Outstanding (Wednesday series)	2,515	2,504	2,645	2,537	2,588
STOCK MARKET (Average for the week)					
50 Industrials, Price Index (Standard Statistics)	117.4	117.6	120.6	116.9	120.2
20 Railroads, Price Index (Standard Statistics)	30.5	39.7	31.3	29.3	30.4
20 Utilities, Price Index (Standard Statistics)	69.8	69.8	68.4	70.7	67.5
90 Stocks, Price Index (Standard Statistics)	96.4	96.5	98.4	96.0	97.8
Valume of Trading, N. Y. Stock Exchange (daily average, 1,000 shares)	577	771	814	-	
or craumate it. to drown excessing framily average, should appread	411	000	014	1,103	1,229



He Set a Trap for Lightning

STALKING thunderstorms is nothing unusual for Karl McEachron. He's done it for years—photographing lightning bolts, studying struck trees and buildings, enticing lightning to strike his equipment and write a record of its voltage and power. He even has in his laboratory a machine to imitate it—a 10-million-volt lightning generator like the one seen last year by two and a half million visitors to the G-E building at the New York World's Fair.

Dr. McEachron's work has won him world recognition as an authority on lightning. And at Pittsfield, Massachusetts, in the G-E High Voltage Laboratory, he and his associates are learning how to outwit this "outlaw" of nature—how to keep it from interfering with your electric service. That's one reason why a passing thunderstorm isn't the signal for a "black-out" in your home, as it used to be. Your lights may blink, but they seldom stay out.

Karl McEachron is one of the hundreds of men in General Electric who are devoting their lives to making electricity more useful to you—are helping industry to improve its products, to sell them for less, and so make them available to more millions of people. These men are helping to raise the living standards of everyone by creating "More Goods for More People at Less Cost."

G-E research and engineering have saved the public from ten to one hundred dollars
for every dollar they have earned for General Electric



USINESS WEEK

January 27, 1940

THE BUSINESS OUTLOOK

Week's news establishes that trend is down, but lepth and duration are yet to be determined. Early Easter hould spur activity in consumer goods industries, but teel will dominate business pattern.

IIIS WEEK'S NEWS provided a definite INSWER ON the immediate business trend. So expected (BW—Dec30'39,p9; Oct 39,p14) it's down. After holding for 1995 tweeks in a narrow range around 15, BUSINESS WEEK'S Index finally bent. 1996 too manufacturing is off some 10 1996 too manufacturing is off some 10 1996. But the drop is not confined to a 1996 windicators. Whereas steel exerted the 1996 minant downward pull for a while, 1996 a long list of statistical indicators 1996 we joined the ranks of the "turnwis," as the following table shows:

	Recent High	Latest Week
inen Week's Index	125.7	122.3
el (% capacity)	94.4	82.2
to Output (No. of cars)	118,405	108,545*
non Mfg. (Index)	132.2	121.9
idential Building	\$4,891	\$2,999**
avy Construction	\$11,599	\$8,347**
c. Power (millions kwh).	2,641	2,572
loadings	861,198	667,713
uminous (thousand tons)	10,450	9,970
mmercial Loans (millions)	\$4,416	\$4,330
urity Loans (millions)	\$1,362	\$1,144
ck Prices (Index)	106.4	96.1

On a seasonally adjusted basis, automobile outwould show an increase.
*Four-week daily average in thousands.

ot a One-Industry Decline

some of the above declines are exagnted by the seasonal tendencies, ich in most cases were down. Thus, was to have been expected that busis, on an absolute basis, would have partented over the last eight to ten eks. But the drops—in practically all —have been worse than seasonal.

for a time, there has been some sugtion that this might be a oneustry decline, that steel would prothe major downpull. Now, however, seems clear that the textile industry ich was nearing the logical end of an rard cycle anyway (BW—Oct28'39, i is not apt to go on a recovery spree its own

own,

ects of Early Easter

ut it is far too early to jump to posiconclusions on the duration or the th of the current movement. For thing, an unusually early Easter ach 24 as compared with April 9 last is apt to produce a premature t in business activity. Indeed, in the htry's major clothing centers, such as New York (see Regional Outlook, next page), employment and payrolls have already commenced to run ahead of schedule.

The early holiday may also result in an earlier-than-usual spurt in retail buying of Easter Sunday finery and subsequent early demands on manufacturers and wholesalers for replacement of consumer goods. This may generate an early upturn in non-durable goods production and result in a moderate business rally, which perhaps it would not be too wise to trust.

Cold Weather Would Hurt

There is the equally interesting possibility that the early Easter, instead of stimulating sales, may prove to be a business deterrent. Unusually cold weather for Easter style parading would put a crimp in shopping enthusiasm and

spring volume of clothing sales would be down materially.

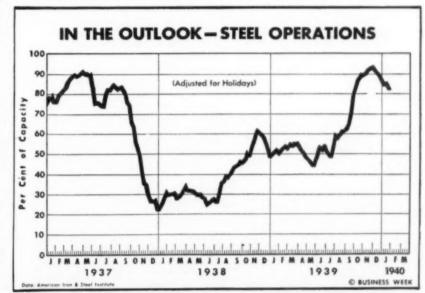
In any case, it seems probable that the chief determinant of the major business trend over the next six months will be what happens in the durable goods industries. Exceptionally good Easter business could give the heavy industries a prod, by causing a demand for machinery and new plant if manufacturers are hard pushed; but that would be only incidental.

Working Off Backlogs

The main thing is that some of the manufacturers of durable goods—such as electrical equipment manufacturers, locomotive and freight car builders, manufacturers of industrial machinery—will be quite busy on contract jobs over the next few months, working off backlogs. Their demands on the steel industry will tend to sustain the steel operating rate.

But then, after they have worked off their backlogs and if new orders fail to come in, there will be a sudden drying up of orders for steel. And steel operations will take another header.

Thus, the pattern might be a moder-



A key factor in the business outlook right now is steel. Ingot output in recent weeks has turned down—not as sharply, perhaps, as had been expected but sharply enough to leave no doubt that a downtrend is under way. Significant fact about the steel operating rate is that it seldom man-

ages to remain long above 90% of capacity. Back in 1937 operations stayed up on the high (90% or above) perch for eight weeks before taking a tumble; this time, ten weeks. Back in 1929 (not shown on chart) they managed to stay up there for 26 weeks.

ate decline in business into March or April followed by an upturn. But in that case, the decline would probably have been checked too soon. The recession probably would not have lasted long enough to correct all the maladjustments which developed during the sharp rise in the production rate from

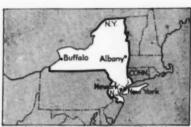
September through December. And in that case it would be wise to expect a decline in business some time later in 1940.

An escape from that pattern is possible in either of two eventualities:
(1) If the current business decline lasts perhaps into the mid-year; or (2) if

war orders in the spring give the heavy industries a boost sufficient to provide an industrial carry-through to the end of the year. But, the events of the next few weeks will give a clearer perspective on both the duration and depth of the current downturn—as it gathers momentum.

cee

The Regional Business Outlook



,886 sq. mi. pop. 16,756,00

NEW YORK—America's apparel manufacturers, heavily concentrated in this city, are swinging into production of spring merchandise a bit faster than usual—primarily because of the early Easter, but also because they anticipate a good season. As a result, payrolls in clothing factories can be expected to rise to a peak over the next few weeks.

But the city's finance industry—Wall Street—has not lived up to the hopes engendered by war speculation in September (BW—Nov25'39,p14). This has its bullish as well as its bearish side. It hardly is possible for volume of trading on the Stock Exchange to go much lower; thus, if there is a change, it is bound to be for the better. As yet, however, the downtrend in Wall Street employment continues.

Shipping Holds Up

Despite earlier misgivings, shipping activity has withstood the recent dislocations in foreign trade. Though European passenger traffic has virtually ceased, the movement of freight has been stimulated—both in tonnage and in number of vessels cleared.

The turndown in the heavy goods industries is being felt in Buffalo, where the steel rate at 70% of capacity is off 20 points from its high. Operations in the metal and machinery trades, in and around Syracuse, Utica, and Schenectady, also are declining. In this they are following their customary pattern—early to rise and early to fall.

Cold weather and travel have added a new lift to department store business, especially in New York City, whose shops attract Florida-bound tourists from a wide area.



ATLANTA—Of late there have been intimations of decline—if not in actual employment and payrolls—at least in orders

At Birmingham, incoming steel business is well below the current operating rate of about 90%, and plants are eating up their backlogs; as a matter of course, district coal mines will curtail output, once a reaction in steel sets in. Cotton textile manufacturers are also trying to take up slack in demand. Last week they shaded prices and brought in some orders, but not enough to prevent the start of a decline. Some hosiery mills have reduced working schedules because of a shortage of silk.

In Mobile, Ala., Tampa, Fla., and Pascagoula, Miss., shipbuilding contracts will tend to sustain payrolls through the next few months, and in southern Louisiana some substantial factory construction is under way. Mathieson Alkali is spending \$1,600,000 to expand its St. Charles plant and at Baton Rouge, Standard Oil has projected enlargement of its refinery. This follows hard upon the Ethyl Gasoline Corp.'s \$4,000,000 construction program in that city (BW—Dec23'39, 211)

Automobiles and Furniture

Right now, marketing the Florida citrus fruit crop constitutes the major agricultural activity in this area. Prices, slightly better than a year ago, are mildly encouraging to retail trade. The main stimulus, however, has come from the rise in cotton (even in spite of the recent setback). Sales of such high-priced items as automobiles and furniture have been running consistently ahead of the national average.



Kansas City—Snow has brought to a halt the downswing in sentiment in this drought-ridden region—but a poor winter wheat harvest is still clearly in prospect. The crop as a whole will benefit from the moisture, but it is generally agreed that only a miracle can produce much of a stand in most of central Nebraska, in the western third of Kansas, and in many parts of Oklahoma.

Switching to "Camel Crops"

Of more basic importance is the gradual but steady adjustment farmers are making to the persistent shortage of rainfall. They are shifting from dependence on one or two cash crops to diversified operations. The growing emphasis is on drought-resistant soy beans and grain-sorghums—the so-called "camel crops." And there is the coordinate shift to the varied livestock operations that go with that type of farming, embracing an increase in dairying at the expense of beef, cattle and hogs.

The outlook for the 1940 spring pig output is not favorable. The failure of last year's corn crop (BW—Aug20'39, p10) necessitated buying feed for hogs outside the district. Now war has pushed corn up but hasn't helped pork prices; and farmers have been selling off their stock because feeding is not profitable.

During December farmers apparently were captivated by the Christmas spirit, and retail volume rose sharply—much more sharply than prospective agricultural income in this area seemed to warrant (BW—Dec 23'39,p14). But so far this month economic realism and icy roads have cut down shopping. So sales have slumped almost as sharply as they rose.

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Allies Oil Up Buying Machinery

French and British buying missions complete headquarters organization, expand personnel, set procedure—and there are rumors the big buying will begin.

IN A SMALL, dignified sandstone building at the corner of Wall and Broad Streets in New York is the headquarters of J. P. Morgan & Co. In the last World War, the Morgan company acted as fiscal agents the Allies.

Just down the street in the same block this week the British and French buying missions set up their coordinated head-quarters for World War II. But this time there is no connection with the Morgan interests. The Allied agents have simply established themselves in a convenient location in a towering skyscraper in the heart of lower Manhattan's financial district.

Shortly after the outbreak of war last September, the French opened temporary buying headquarters in the offices of the French Line in Rockefeller Center. They were unpretentious, but some of the first arge war orders—outside of aviation—were signed at this Fifth Avenue address.

The British were slower in getting under way. Orders for planes and machine tools had been placed in comparatively arge volume during the whole of the two preceding years, for the British started rearming in earnest in 1937. But it was not until November that the British established temporary offices in the Consulate in lower Broadway and announced that they were preparing to buy on a large scale in the United States. Even since then they have moved cautiously and confined their purchases to a much more limited variety of items than the French.

Rich Customers for U. S. Business

In the maze of rumor and speculation er the kind and amount of business hat these Allied buying missions would lace in this country, the realization pread rapidly among business executives hat, outside the United States governent itself, there was no other organizaon in America with the potential buypower of the Anglo-French missions. Actually, Allied purchases so far have en comparatively light, which accounts or some of the grumbling about war siness that hasn't materialized. Howver, some who pretend to be in the know y that-including machinery and airne orders placed in the 18 months beere the outbreak of hostilities-they ave amounted to \$750,000,000; others lieve that this is a greatly exaggerated gure. The British announced that their ders placed here between Nov. 15 and in 13 amounted to about \$73,000,000.

That is the only official information on business placed.

Five months after the outbreak of war the Allied purchasing missions are beginning to shake down into comparatively stable oragnizations. Dreams of completely merged activities have been abandoned for a more practical plan under which each nation buys for itself except when needs are identical, as in the case of planes and shells. In such circumstances, orders are often placed jointly in order to avoid competitive bidding both as to price and delivery dates. General policies are coordinated through the Anglo-French Buying Board, but actual execution of the bulk of the business is left to the individual commissions.

France Sends Larger Staff

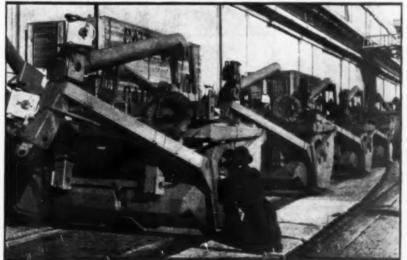
The French mission is already installed on the nineteenth floor at 15 Broad Street. In another 10 days the British expect to move into the thirteenth floor, and the executive directors will share tower offices on the twenty-fourth floor looking down on the New York Stock Exchange and out over the lower harbor to Staten Island where many of the outgoing shipments are assembled until Allied freighters arrive to load and start the convoyed trip back to Europe. In one of the recent convoys there are said to have been no less than 54 freighters, some of them from New York and the rest picked up at Halifax.

The French Purchasing Commission all along has been considerably larger than the British. At present the staff numbers 175, under the supervision of the Director-General, Jean Frederic Bloch-Laine, who is a partner in Lazard Freres. The first executives arrived by ship and clipper plane soon after the outbreak of war. Some, like Mr. See who headed the special French naval purchasing group, have finished their immediate duties and returned to France. Technical experts come and go as they are needed, and French purchases in Canada-such as they are-are always handled by special agents sent from New York to work with the proper Canadian and British author-

Premiums Speed Deliveries

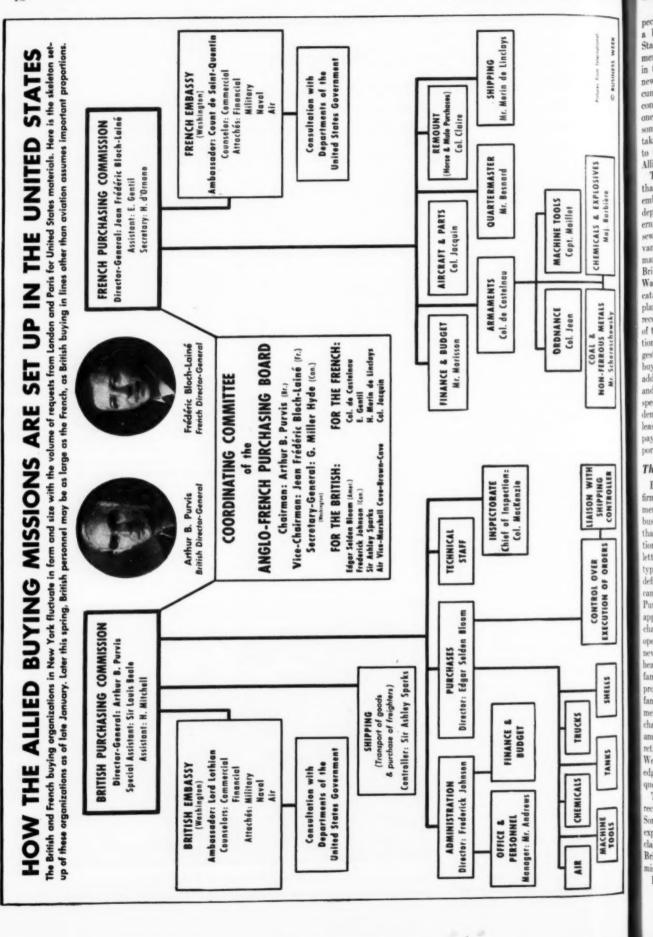
French purchases to date have run the gamut from mules to airplanes, and volume has been much larger than the British. All orders are placed through the various purchasing boards at the Broad Street headquarters. In every case, the French are demanding delivery before the end of 1940. To secure this, they have sometimes paid a premium on the goods they are purchasing which in some cases has been large enough to cover the cost of expanding the plant of the American supplier. Such a deal was made with the Pratt & Whitney interests in Hartford, Conn., in order to insure prompt delivery of airplane engines to the French. Similar arrangements have been made with several machine manufacturers and further deals of this nature are contemplated.

The British mission's staff has been enlarged in the last few weeks from 70 to 90. This seems to support the rumor that the British are getting ready to place huge orders here for as rapid delivery as possible. Apparently the French have convinced London that they can't ex-



International

Trench diggers destined for the French front—part of the mass of war equipment awaiting shipment at the Staten Island free trade zone.



y 27, 1940

CHEMICALS & EXPLOSIVES Mej. Barbière

NOM-FERROUS METALS Mr. Schereschewsky

CONTROL OVER EXECUTION OF ORDERS

SHELLS

pect to defeat Germany by waging only a blockade war. The French General Staff is reported to be eager to supplement naval supremacy with supremacy in the air. This accounts for the recent new burst of aviation buying and the accumulating reports that numerous large contracts have been signed of late by one mission or the other for shells. In some cases, unused factories have been taken over and entire plants turned over to the production of munitions for the Allies.

The British have drawn more heavily than the French on their Washington embassy's connections with the various departments of the United States government. Arriving after the French had sewed up plant output for months in advance in some of the largest machine manufacturing plants in this country, the British have sought the advice of the War Department which has a complete catalogue of all of the large industrial plants in this country, together with a record of their capacities. This is a part of the United States' industrial mobilization plan (BW-Oct7'39.p49). With suggestions from the War Department, the buying missions have been able to locate additional plants capable of producing and willing to produce war supplies to specifications. In many cases, cash is demanded with the order to cover at least a part of the order; the balance is payable on delivery at the United States port.

They Know American Business

Both missions are eager to contact firms able to produce some of the equipment they need. Best procedure for a business man who wants to make sure that his product will come to the attention of the commissions is to write a letter. It should outline the amount and ypes of goods he can produce within a definite period and the specifications he can meet. It can be addressed to Bloom, Purvis, Bloch-Laine, or the head of an appropriate French or British board (see chart). Both missions are unwilling to open negotiations by telephone with a new client. Of course, the purchasing heads of both commissions are thoroughly familiar with American industry, and prospective suppliers can rely on this familiarity as they do in bidding for domestic business. The Director of Purchases for the British mission, for example, is Edgar S. Bloom, who has just retired after 13 years as president of the Western Electric Co. and whose knowledge of American business is beyond question.

The commissions insist on dealing directly with manufacturers and growers. Some Americans have had disheartening experiences with unscrupulous men who claim an inside track with the French or British agencies and operate on a commission basis

Buying will change in character imme-

diately if there is active fighting on a large scale in Europe. In the meantime, activity at 15 Broad Street indicates that big orders are being negotiated right now.

Food Men Convene

Below-cost selling and the consumer movement are outstanding among controversial topics.

ONCE A YEAR Chicago plays host to the nation's food men, whose big get-together consists not of one convention, but of 30. This was the happy week for Chicago hotels.

Biggest of the annual meetings is that of the National Canners' Association, whose members gathered at the Stevens for their speeches, dinners, and to see the exhibits of materials and machinery. Next biggest meeting is probably that of the National American Wholesale Grocers Association, at the Congress this year. The National Food Brokers Association held forth at the Palmer House.

Scattered around a dozen other hotels were specialty groups-the Pickle Packers, the Macaroni Manufacturers, and various big associations of retailers.

The chains don't have a Chicago convention, but they have men there just to keep an eye on things. There are many contacts between the various groups. Canners wander over to see what the brokers are talking about; wholesalers look in on the retailers.

The problems of the various food groups aren't exactly the same, of

Leads the 400



F. A. Countway, president of Lever Bros. Co., soap manufacturers, was first on the list of 400 individuals receiving compensation in excess of \$75,000 in 1938, published last week by the United States Treasury. Salary: \$30,000. Bonus: \$439,713.62. Total: \$469,713.62.

course. Independents, when they get together, always work around to "dat ole devil," chain competition. Wholesalers talk about getting exemption from Wage-Hour Law overtime. But judging from the undercurrents in Chicago, these are the major subjects about which food interest will focus this year: (1) the effect of war; (2) the government's stamp plan for moving surplus commodities; (3) curbs to below-cost selling; (4) the consumer movement.

Trade Sold on Stamp Idea

War and the stamp plan are least controversial. Nobody even claims to know what the net effect of war will be. It will lessen the export of some commodities, increase the export of others. And approval of the stamp plan is almost universal. Milo Perkins, president of the Federal Surplus Commodities Corp., went to Chicago to tell the wholesalers about the beauties of the plan. which will be in effect in 100 cities by the end of 1940, but that was hardly necessary. The food trade was already sold.

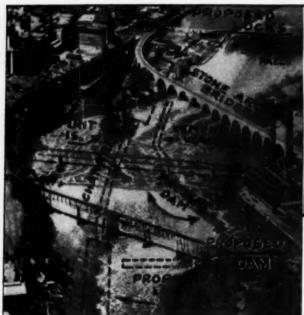
There's less complete agreement about curbs to below-cost selling. Last week, the National Food and Grocery Conference Committee (composed of manufacturers and distributors) met in Washington (BW-Jan20'40,p20) to discuss loss leaders and what could be done about them. The best course the committee could find-and the one followed in Chicago-was reiteration of the previous recommendation that states which don't have unfair sales acts (28 do) should enact them to prohibit selling at less than cost-plus-6%.

Some independents feel that manufacturers are throwing them support for the loss leader laws as a sop. The problem would be solved more effectively, these independents argue, if manufacturers would set minimum prices under the various state fair trade laws, but food manufacturers are leery of fair trade. They've made Ohio a proving ground for it and aren't ready to call the experiment a 100% success.

Cooling Down a Little

Most of the food men brought their wives to Chicago, but it was the lady who wasn't there-the consumer-who got talked about. Year by year, there is a growing realization that eventually the industry is going to have to cope with the demands of organized consumers, chief of which is the plea for A-B-C grade labeling on canned goods.

Many a canner still considers the consumer movement a Communist manifestation, but there was great interest in Chicago in the new committee on consumer relations just set up by the Associated Grocery Manufacturers America. And there was less talk of the ruin that would follow the adoption of grade labeling.





A bird's-eye view of the Mississippi River at Muneapolis (left) shows the work to be done on the city's upper harbor project. The model of the river at St. Anthony Falls (right) shows how the proposed upper locks will raise boats 50 feet, and take them above the falls into the city's new harbor.

Minneapolis Harbor

Waterway fans cheered by U. S. report, but municipal part of program hits snag.

ECONOMIC PARENT of Minneapolis was St. Anthony Falls, providing water power which gave life to lumber and flour mills. The Falls, however, has long since ceased to play a beneficent role. Its 75-foot drop keeps the city from enjoying the full advantages of the \$140,000,000 spent by the federal government to make the Missispipi River navigable as far as the Twin Cities.

Steep banks below the Falls deprive Minneapolis of level land required for extensive dock facilities. But above the Falls are ideal stretches, sites of vanished sawmills and lumber yards.

This week waterway enthusiasts in Minneapolis were heartened by the annual report of Maj. Gen. J. L. Schley, army chief of engineers, who informed Congress that \$3,845,500 "can be profitably expended" on the city's upper harbor project in the fiscal year beginning July 1. The government stands ready to build the necessary locks and improvements if Minneapolis will remodel bridges to provide clearance for barges.

Lawyers Raise Difficulty

Offsetting jubilation over Schley's recommendations was the fact that the city's bond attorneys had failed to approve an "earnest-money" bond issue of \$100,000 for the municipal part of the program. Some of the money would be used for elevating railroad bridges and relocating private piers, and the city's right to spend public money on private property is challenged. Inasmuch as the city's total outlay will be \$1,774,000 com-

pared to a \$7,779,000 expenditure by the United States, a solution will doubtless be found.

With the planned harbor, projected as one of the finest of its type in the world, Minneapolis hopes to help pay off the Middle West's old scores against the Panama Canal. The nine-foot channel is now practically completed between St. Louis and Minneapolis, a distance of 673 miles. Freight transportation on the upper river increased from about 500,000 tons in 1930 to 2,750,000 tons in 1938.

Even with its present inadequate dock below the Falls, Minneapolis chalked up a traffic total of 249,431 tons in 1939, compared to St. Paul's 330,325 tons. Outbound Minneapolis shipments increased 134% over 1938, the jump being largely due to new business in scrap iron. Coal and coke are the principal incoming commodities.

Casting envious eyes on the \$7,000,000 du Pont plant now going up at Clinton, Ia., the extensive Shell and Socony Vacuum storage tanks at St. Paul, Davenport, Ia., and La Crosse, Wis.—all influenced by waterway considerations—Minneapolis hopes her new harbor will attract important industrial ventures.

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No Winter Truce on Rail Front

Eastern roads fight among themselves over passenger rates and freight forwarders, prepare to take on Southern lines while eyeing truck dispute.

FOR EASTERN RAILROADS, January has been a month of Class A scraps. They have squared off for at least two good fights among themselves, and have been itching to take on the Southern roads, once the Interstate Commerce Commission gave them the nod. Also in the offing is a new battle over trucks.

The argument that lines up 24 separate carriers, headed by the Pennsylvania, against the B.&O. is an old one, over basic passenger fares. The ICC, in July, 1938, permitted these carriers to raise the basic passenger coach fare for 18 months from 2¢ to 2½¢ a mile (BW—Jul9'38,p6). The experimental period was due to end this week, but earlier in the month, the 24 carriers scurried to the ICC, obtained a temporary two-month

reprieve, and this week were asking the full commission to retain those fares until Oct. 31.

The petitioning roads said that the first eight months of 1939 showed an increase of 6.5% in passenger coach revenues for the Eastern district against a 0.5% increase for the Southern region and a 0.2% increase in Western road revenues. But the real reason these roads want to hold on to the extra ½¢ is that they want to experiment further with the sliding scale of round trip coach fares initiated last June (BW—Jun3'39, p14), under which round trip fares slide from 2.25¢ a mile (for the first 100 miles) to 1.7¢ a mile (for 901 miles and more).

Opposing their contentions, as he has

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Do you type and compute an invoice in separate operations—or do you use the new equipment that does both jobs in one operation?
Is your office organized to handle "preferred attention" items without disturbing the normal flow of work?
Are you able to complete accounting jobs the same day they are started, or does your present system pile up figures for a month-end peak?
Have you ever studied at one time all forms in use in your office to check for duplications, reference value, sequence of information, and posting procedure?
Do you save time by using tables of interest factors, decimal equivalents, etc., in calculation work?
Do the machines used in your office have the recent advancements that eliminate mental calculations, extra copying, rehandling of figures, etc.?
Are your accounting records maintained in such a manner that statistics are available quickly, without separate analysis?
Are there periods of inactivity on cer- tain desks due to clogging of work at other points?
Have you investigated recent developments for preparing in one operation related records that are now being prepared separately?

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their work in different places, or does the work flow to each desk in a normal,

orderly process?

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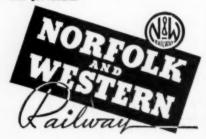
When industry seeks locations for new plants, or sites for relocating plants, it demands the essentials necessary to economic production and distribution. The territory served by the Norfolk and Western Railway has those essentials.

First—the territory traversed by this railroad has an abundance of natural resources.
For example, an abundance of the basic elements necessary to the chemical industry;
resources for the manufacture of paper products, textiles, and furniture, wood-working
and metal-working industries; dairy products,
horticulture and livestock industries. And
along the railroad there is a vast supply of
fine bituminous coal for industrial, domestic
and by-product uses.

Second — in Noriolk and Western territory there is an abundance of native labor, electric power and water. Tax rates are advantageous to industry. Living costs are reasonable. The climate is equable.

Third — The Noriolk and Western provides industry with adequate and efficient transportation service. The railroad is strategically located, with lines and connections running north, south, east and west to the great consuming markets of the country. The N. & W. serves six states, an area that extends westward from the world-famed Port of Noriolk to the Middle West at Columbus and Cincinnati. Other N. & W. lines run north to Hagerstown, Md., south to Winston-Salem and Durham, N. C., and southwest to Bristol, Va.-Tenn.

At Roanoke, Va., the Norfolk and Western maintains an efficient Industrial and Agricultural Department. Its staff has complete information on natural resources, raw materials, labor supply, fuel and power, distribution and markets. Telephone or write the Industrial and Agricultural Department of the Norfolk and Western Railway at Roanoke, Va. You will get results.



done heretofore, "Uncle Dan'l" Willard, president of the B. & O., declared that if the higher fare is continued, "we will see a still larger portion of the travelling public leaving the railroads and going to other forms of transportation." Someone unkindly said that the B. & O. represented only 5% of total passenger revenues in the east. Whereupon a B. & O. vice-president replied, "We may be the 5% people, but the \$15,000,000 that we make on passenger traffic is just as important to us as the \$70,000,000 or \$100,000,000 is to the Pennsylvania."

The experience of the eastern roads with the 2½ fare was naturally distorted by the advent of the New York World's Fair. And if they are permitted to charge the higher fare until the end of October (within which time the Fair will again be open), they will again be back in October with the same argument.

Agree on Forwarders

While the B. & O. is violently opposed to the Pennsylvania on the question of passenger fares, it is quite in agreement with it on another score. That has to do with the freight forwarder—that enterprising individual who, although operating no trucks, collects less-thancarload consignments from shippers via local trucking companies, combines them into full carloads which are shipped by rail, and then breaks up the carloads into their individual packages for delivery by motor truck at their destination.

Forwarders make money in the spread between the rates they charge to shippers and the rates they pay to railroads. But it now appears that forwarders will make much less (if any) money than before, because of a current turn of events.

Recently, the ICC permitted the Pennsylvania, the B. & O., and seven other carriers to reduce l.c.l. freight rates to meet forwarder competition. As expected (BW-Dec9'39,p38), the New York Central and five other roads affiliated with freight forwarders sought to prevent the reductions, but the ICC turned down their objections. Freight forwarders say that the new competitive rates are as low as their first class rates and lower than some of their second, most of their third, and all of their fourth. And many observers this week were looking for a first class rate war to develop as a result.

To add to their grief, the federal District Court in New York has upheld the ICC's decision that a forwarder is neither a common nor contract carrier and hence subject neither to regulation nor to special consideration. Forwarders' only hope of salvation lies in the railroad legislation held over from last session (BW-Aug5'39,p16). The House version of S. 2009 (which was passed by both houses in widely different forms) includes forwarders in the transportation

picture, and places them under the jurisdiction of the ICC.

At present, the two transportation bills are in joint committee. The committee is due to get down to work upon them next week, when committeement who are also on the Cole oil subcommittee return to Washington. Meanwhile, interested parties have been submitting memoranda to the committee.

Union on Sectional Issue

One matter on which all rails north of the Ohio and Potomac agree is the ICG decision in the South-North freight rase (BW—Dec9'39,p37). They're against it The ICC, it will be recalled, recognized the validity of the Southern roads' contention that high freight rates had at a tention that high freight rates had a steed artificial trade barriers, and permitted rate reductions which, while immediately limited to a few commodities, have broad implications.

But now the Northern roads have asked for a 60-day postponement of the reduced rates, arguing that the freight rates from the South to the North we not as high as formerly contends because of the so-called key-point adjustment. This week the ICC granted only a 30-day postponement to April 1, while the roads petitioned for a reconsiderating of the entire issue.

Finally, an argument over motor trucks holds interest for the rails, Ser eral months ago, the ICC greatly re stricted the activities of contract carrier (which had previously been free choose the shippers they served t single classes of shippers. Last week, the contract carrier division of the America Trucking Association filed a petition wit the ICC, seeking a reopening of the hearings. If those hearings are reopened, interested railroads may be expected to chime in. If not, and contract carriers remain restricted, there may be some divergence of their traffic to common carriers and possibly to railroads,

Cotton Foe on Warpath

Growers and officials rally in San Antonio to combat sudden spread of pink bollworm.

THE PINK BOLLWORM, Worst enemy of cotton, is a poor flier, even in the moti stage of its life cycle. But the strong, dr winds of Texas enable it to travel far Until recently, however, modern contr methods appeared successful, and the ravages of the pest were confined to three Texas counties. Then growers sudden found 18 of the state's major cotton-pa ducing counties had been infested. The news was a bombshell to the tire Cotton South, for small whirlwind often lift the moths into the upper at currents which might land them at an time in, say, Louisiana or Arkansas. The worm, spending most of its life inside a Ansportation. The con-

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NEW YORK



STATEMENT-DECEMBER 31, 1939

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HARVEY D. GIBSON

ADMITTED ASSETS

Cash in Banks and Trust Companies \$ 15,295,880.95
United States Government Bonds \$ 10,753,105.49
All other Bonds and Stocks \$ 86,911,891.37
First Mortgage Loans \$ 300,000.00
Premiums uncollected, less than 90 days due Reinsurance Recoverable on Paid Losses \$ 1,021,060.43
Other Admitted Assets \$ 420,923.52

\$123,056,097.94

LIABILITIES

Capital Stock (3,000,000 Shares @ \$5 Par Value Each) \$ 15,000,000.00

Reserve for Unearned Premiums 48,121,615.00

Reserve for Losses 6,190,596.00

Reserve for Taxes 2,350,000.00

Reserve for Miscellaneous Accounts 848,768.58

Funds Held under Reinsurance Treaties 173,600.52

NET SURPLUS 50,371,517.84

\$123,056,097.94

NOTE: In accordance with Insurance Department requirements—

Bonds are valued on amortized basis. Insurance stocks of affiliated companies are carried on basis of pro-rata share of Capital and Surplus. All other securities at Market valuations.

Securities carried at \$3,130,503.00 and cash \$50,000.00 in the above Statement are deposited as required by various regulatory authorities.

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MONUMENT

to an Engineer's Hobby

by Westinghouse



- Just a few weeks back a small crowd gathered on a hilltop in the Alleghenies to pay their respects to the station that had pioneered all radio broadcasting. The station they were honoring was KDKA; the occasion, the dedication of a new 50,000 watt transmitter located at Allison Park, near Pittsburgh.
- Present at this ceremony were many people who nineteen years before had heard and participated in the first official broadcast ever made—the announcement of the Harding-Cox election returns on November 2, 1920. Since that historic day radio broadcasting has developed so rapidly, extended its sphere of influence so far, that not many are aware of its humble beginning.
- It all started in the garage of a young Westinghouse engineer. He was such a stickler for accuracy that he couldn't even tolerate a few seconds variation in his vestpocket watch. To satisfy this whim, he rigged himself up a crude radio receiving set of the type that was

then known as a "cat's whisker", so he could pick up the time signals sent out at regular intervals by the Naval Radio Station at Arlington.

- Out of this hobby came a prodding urge to make radio something more than a signalling device for the benefit of ships at sea. With the help of others, this young engineer eventually established station KDKA and immediately a new voice was heard in the land.
- For the first time a church service was broadcast over the air; the first broadcast of a presidential inauguration was heard; radio announcements of baseball scores, time signals and market reports became a daily feature of this new public service.
- When we remember the flaming speed of radio broadcast development since 1920, it is amazing to find the pages of history attributing so much pioneering to a single station. And so the installation of this new equipment is consistent with Westinghouse's desire from the very beginning to extend radio's usefulness and improve the quality of both programs and reception.
- All this means a great deal to you who are within the sound of KDKA'S new voice. That takes in about everybody, for in addition to the standard KDKA broadcasts, short wave programs from the same studios over station WPIT (formerly W8XK) are heard around the world.
- In addition to KDKA, the familiar call letters of Westinghouse stations WBZ, KYW, WOWO and WGL are further indication of our close association and interest in this important and exciting industry.

cottonseed, cannot be detected until ginning begins. When firmly established, it often destroys as much as 50% of the crop outright.

Confronted with this crisis—made all the more acute by loss of foreign cotton markets—five southern states sent their chief agricultural officials to San Antonio to consult federal authorities on what might be done. In all, 600 growers, county agents, landowners, and entomologists attended the conference. Various weevils have long attacked the cotton fields of most southern states, but none so destructive as the pink bollworm.

Protective Zone Sought

Establishment of a non-cotton zone on the Mexican border, supported by Dr. Lee A. Strong, chief of the Bureau of Entomology and Plant Quarantine at Washington, was sidetracked because of the obvious impossibility of obtaining necessary cooperation from Mexico, where cotton fields have been infested for many years. Under such a program, growers would have been compensated for starving the pest out by not raising cotton.

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Present control methods will be continued for 1940. These consist chiefly of rigid cleanup of fields after harvest, burning of stalks, sterilization of cottonseed at gins, requirement of state and federal permits for shipments from infested areas.

Big worry now is funds for the Bureau of Entomology. The new federal budget cuts the pink bollworm appropriation from \$906,000 to \$527,000. Thirty cotton farmers—20 from Texas—will appear in Washington Feb. 6 to lay the seriousness of the situation before Congress. The group, headed by Eugene Butler, chairman of the insect subcommittee of the Texas Statewide Cotton Committee, will try to bring the fund up to last year's figure, at least,

Coast Steel Industry?

Taking President's cue, Bonneville seeks a steel mill, but ironmasters are dubious.

Wanted: A small iron and steel mill (or a big one if available) to locate in the Columbia River area and use Bonneville power.

The Bonneville Project isn't actually running ads like that, but it is hunting for such a mill, and apparently with all the zeal of a boom town Chamber of Commerce. Without naming names, the project reported to Secretary Ickes last week that it was actively negotiating with several good prospects.

The report expressed belief that a small iron-steel plant having a rolling mill, producing for the local market, would be feasible, particularly in view of the low cost government power available. While



The Columbia Steel Co., which operates this blast furnace near Provo, Utah, is a subsidiary of the United States Steel Corp.—and one of the five companies responsible for all western steel production.

doubtful about a large-scale operation, Bonneville argued that "uncertainties" would disappear if a "financially strong company" would install equipment to supply heavy tonnage products for the coast market. The report said only about 10% of the Pacific tin plate market is supplied by West Coast facilities.

When President Roosevelt spoke out some weeks ago in favor of a big West Coast steel industry, the idea was immediately acclaimed by numerous persons and organizations interested in developing the Bonneville and Grand Coulee power areas.

Most of their arguments echoed the President's: (1) That the Coast aircraft industry, now handling close to half the total U. S. production, offers a market for high-grade steel alloys; (2) that the five western steel plants can't supply the area's increasing demand; (3) that the present method of shipping steel plates for busy Coast shipyards from the East through the Panama Canal is hazardous from a national defense point of view.

Taxpayers Could Help

To overcome the West's chief handicap, lack of coking coal and iron ore, enthusiasts for a Coast steel industry point to the possibility of using electric furnaces to process iron ore and scrap into steel. They feel that the government, for national defense reasons, might justifiably provide a subsidy to make up any extra production cost.

Officials of established western steel plants are decidedly skeptical, to put it mildly. They insist their present facilities are able to supply all the demand for steel products now in sight; that if electric furnace operations were economically feasible they would be the first to adopt



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INDUSTRIAL RELATIONS . PERSONNEL . EXECUTIVE POLICY

Labor Mediation Seen as Next Goal

Record of U. S. Conciliation Service is in spotlight as Congressional sentiment on amendment of Wagner Act grows increasingly confused.

them. They point out that: (1) Even under the electric furnace system, large supplies of coke or charcoal would be required as a reducing agent—to remove oxygen from the iron ore; (2) the Coast market for steel products is so widely scattered that a difficult transportation problem would arise no matter where a plant was located; (3) present mills are highly diversified to supply the small products peculiarly demanded in Coast markets and the demand for structural steel isn't large enough to keep rolling mills, which aren't equipped to handle small products, busy.

Strengthening Pros' Case

Ammunition for the pros, in the argument over the President's proposal, was discovered recently in a bulletin of the Oregon Department of Geology and Mineral Industries in which it is claimed that: (1) Iron ore sufficient for at least part of plant requirements is available within 25 miles of Portland; (2) Bonneville can supply the lowest tidewater power rates in the country for electric melting and steel rolling; (3) a Portland plant would be within economic reach of Pacific Coast coking-coal fields; (4) costs of a well-designed, integrated plant of 160,000 tons' capacity would compare favorably with those of eastern mills; (5) though raw material costs would be a little higher, they would be outweighed by lower transportation costs on finished steel; (6) Coast steel would find markets in the West, in Hawaii, the Philippines and Alaska, in the Orient, in Australia and the East Indies and South America.

Western Market for Steel

Industrial West, Inc., fact-finding organization established two years ago by leading Coast firms to survey western industry, raw materials, and power resources (BW-Feb18'39,p16) reports that the market for steel products in the 11 western states is about 2,500,000 tons a year while steel-making capacity is 1,800,000 tons of ingots and castings (2.5% of national total) and output of hot-rolled products runs approximately 1,000,000 tons (slightly less than 3% of U. S. total).

Five companies handle western steel production. Columbia Steel, subsidiary of United States Steel, operates a blast furnace near Provo, Utah, and two rolling mills in San Francisco and Los Angeles. Bethlehem Steel also operates rolling mills in the two California cities and in Seattle. Bethlehem's West Coast furnaces melt scrap rather than pit

Colorado Fuel & Iron Corp. operates blast furnaces, rolling mills and finishing plants at Pueblo, Colo., distributing both East and West. There are two "independents," Judson Steel Corp., Metropolitan Oakland, and Northwest Steel Rolling Mills, Seattle.

CONGRESSIONAL SENTIMENT on amending the Wagner National Labor Relations Act remained as mixed as ever this week, and the only certainty was that the confusion would get a lot worse before it got any better. Up to now the Smith House investigating committee has had things all to itself, but in the next few weeks, if the Smith committee doesn't wind up its work by then, the business of scrutinizing the act and the National Labor Relations Board is going to be converted into a three-ring circus. The House Labor Committee will inaugurate its own hearings next week, and Feb. 5 the Senate Interstate Commerce Committee will stage its private show.

The hearings are just now progressing to the point where some of the principals are being heard from-at least officially. The A.F.L. has for some time been plumping for a five-man board in place of the present three-man organization, but not until last Thursday before the Smith committee did its head spokesman, William Green, get a chance to testify. John L. Lewis will get his innings before the

ment issue will be sidetracked this session by a readjustment of personnel. What the new Wagner bill is, nobody knows-probably not even the Senator. for there is a widespread suspicion that he is simply threatening a new measure to keep some of the zealous supporters of his present act from pushing him too far in the Labor Board's defense. If he has a bill definitely in mind and if it is such a measure as has been rumored-a bill to widen the government's role as a conciliator in labor disputes-he probably won't introduce it except as a last ditch defense of his present act, a move to distract its opponents.

Senate Committee when it starts to work.

The father of the act, Sen. Wagner, con-

tinues to keep pretty much in the back.

ground, but reports that he is readying a

new omnibus measure have added more complications to the prospects-enough

more to make it likely that the amend-



Senator Wagner's highlighting of the subject has, however, served to focus attention on activities of the existing conciliation service and on the strong undercurrent of opinion, in both Congress and business, that there should be more conciliation and less compulsion in government supervision of labor relations.

The United States Conciliation Service is part of the Department of Labor. It is 27 years old, has a staff of 95 employees and for the present fiscal year a \$325,000 purse (NLRB has 905 employees, 83,-039,600 for same period). Headed since 1937 by Dr. John R. Steelman, a quiet, affable man who came up from the ranks of the service, Conciliation has a remarkable record (BW-Mar4'39,p26) of settling labor difficulties where both parties are willing to sit down and talk.

Conciliation and mediation (the terms are practically interchangeable) are all that this agency can do. In the usage of the service, conciliation is the running back and forth between disputants o see if they can be brought together, mediation the mutual talking out of problems and finding a compromise. Steelman has no power to subpoena anyone or to force his agency into any dispute, doesn't want any. In two strike-torn years from the



Dr. John R. Steelman, head of the Department of Labor's Conciliation Service since 1937, in which time Conciliation has helped prevent 660 strikes, involving 440,000 workers.

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Surgery, serums, medicines . . . they rout infection, beat down disease. But healing comes in the night, while tired minds, frayed nerves and the wounds of the flesh lie under the anaesthesia of drugless, natural slumber.

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middle of 1937 to the middle of 1939, the Conciliation Service helped prevent 660 strikes for which a date had been set, involving 440,000 workers. In the 1938-39 period, Conciliation was a party in 3,500 cases involving 1,600,000 workers, NLRB had 6,500 cases involving 1,029,000 workers. About 65 of the Conciliation staff are in the field all the time, and regional offices function in 10 cities.

Service's Reputation Grows

There is a definite shift in the conciliation work, from adjustment of strikes to their prevention, and a growing number of labor agreements include arbitration clauses which the division has helped draw. Arbitration involves the decision by a third party of right and wrong, if the employer and employee are deallocked, and, if asked, Steelman will recommend an arbitrator. About 1,000,000 workers now are under agreements calling for such voluntary arbitration.

By and large, both employers and labor unions like the way Conciliation works, and new doors are constantly being opened to it. The feeling is growing in Administration circles, too, that the government may have something worth promoting here. For, as President Roosevelt remarked upon signing the Wagner Act, "The National Labor Relations Board will not act as mediator, or conciliator, in labor disputes."

As the Wagner Act rolls toward the inevitable legislative showdown, there is considerable feeling in Washington that an adjustment of labor disputes along the Conciliation Service line should precede, where possible, the crack-down by NLRB.

Open Shop under Fire

La Follette blasts business groups for attempting to keep Los Angeles out of union grip.

Working eight hours a day, the La Follette Civil Liberties Committee sifted the testimony of more than 100 witnesses in Los Angeles last week in a hunt for evidence and arguments to justify funds for a longer investigation. The \$50,000 appropriated last session for the Senate inquiry is nearly gone.

Concentrating on the much-publicized Los Angeles open shop system (BW-Jun21'39,p28), Senator Robert M. La Follette, Jr., of Wisconsin, the committee chairman, and his colleague, Senator Elbert D. Thomas of Utah, former Mormon missionary, turned up some findings which they hope will make good ammunition in Congress. They wrote into the record:

(1) That employers, during strikes, have made frequent contributions to the Los Angeles Police Department to pay expenses of overtime strike duty. In the 1936 waterfront strike, according to testimony, about \$146,000 was paid the

department's "Red Squad," now defunct.

(2) That the Merchants' & Manufacturers' Association, known locally as the M. & M., maintains an "open shop labor temple" with 10,000 registrants. Senator La Follette said his staff had gleaned from association documents that "a strikebreaker was more than twice as likely to get a job through M. & M. as a non-strikebreaker." M. & M. officials denied this.

(3) That correspondence indicated a Grand Rapids employment agency sent workers to Los Angeles after passage of the Burns law banning interstate transportation of strikebreakers.

(4) That Los Angeles cabinet and fixture manufacturers drew up an industry agreement pledging themselves not to bargain with unions over a two-year period under minimum penalty of \$10,000.

Where the Money Came From

The committee also scrutinized The Neutral Thousands, a group of housewives formed late in 1937 by Mrs. Bessie Ochs and financed largely by Southern Californians, Inc., the top co-ordinating open shop organization. Testimony showed that some \$88,000 of the \$99,682 received by T.N.T. during its life came from S.C.I., only 0.2% of T.N.T.'s income came from membership dues.

Clay C. Rittenhouse, of the T.N.T. staff, testified that from November, 1937, to March, 1939, he organized and "serviced" independent unions, usually at the behest of employers. He said several letters signed by employees, asking aid in forming an independent union, were written by himself, in the T.N.T. office. S.C.I. officials said they didn't know T.N.T. was fostering independent unions until December, 1937, that they then told the staff to quit it. According to Rittenhouse, the work continued.

The Open Shop and Prosperity

Dr. Paul A. Dodd, associate professor of economics, University of California at Los Angeles, compared wages, living costs, and business activity in open shop Los Angeles and closed shop San Francisco. Union membership among the 363,000 gainfully employed workers in San Francisco is proportionately twice that among the 727,000 Los Angeles workers.

San Franciscans average 80¢ an hour or 830 a week compared with 73¢ an hour or 827 a week for Los Angeles workers. The Angelenos have to work about three hours more a week. Real wages are almost equal, for living costs are 6% lower in Los Angeles. Dr. Dodd concluded that "frequent claims that the open shop is the source of prosperity in Los Angeles and that activity of unions is making San Francisco a ghostity, are not borne out by statistics since 1929."

Strange Facts about Fire!



Could gasoline, paint, or chemicals cause a dangerous fire in your plant? Could you handle an electrical fire quickly, without damage to delicate wiring? On electrical and flammable liquid fires LUX extinguishers are tops!

For storage spaces, finishing rooms, large electrical motors, Lux Built-In Systems are your

best protection. America's foremost utility companies, motor car manufacturers and countless industrials rely on Lux Built-In Systems for hazards like these.

Send the Coupon

Would you like to know more about fire . . . how to protect against it? Send for "Don't Play With Fire." It's free. Mail the coupon right now.

Walter Kidde & Company

124 West St., Bloomfield, N. J.

Send me "Don't Play With Fire." I understand it describes the new Kidde-LUX, as well as other LUX extinguishers.

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MARKETING

ADVERTISING . MERCHANDISING . SELLING

That 15% Agency Commission

Cowan & Dengler advertising agency, exponent of the fee system, revives the compensation issue by asking advertisers what they think of the 15% method.

THE CONTROVERSY over advertising agency compensations is one of those hardy perennials. It smoulders discreetly for a few years, until the trade begins to think that the last spark has gone. Then somebody proceeds to blow on the embers

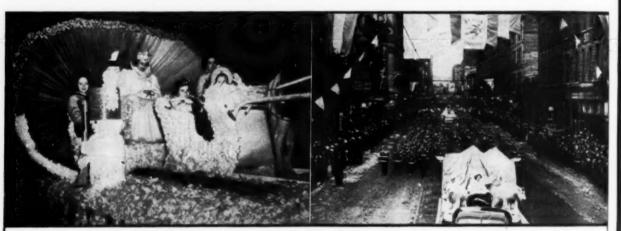
of the issue-and there's another flame.

The embers are being fanned once again by the New York advertising firm of Cowan & Dengler, which has conducted a survey to get at the current thinking of national advertisers on the subject of the 15% commission which publishers and broadcasting companies pay to agencies.

Cowan & Dengler is not one of the biggest agencies. At the same time, it's one of recognized standing with a list of some important clients. What distinguishes the firm from members of the American Association of Advertising Agencies is that C. & D. solicits clients on a fee rather than straight commission basis.

Cowan & Dengler has been pioneering the fee system, in a conservative way, since 1924. It calls its plan the "true fee system" to distinguish it from the minimum fees which most agencies charge small advertisers and which become inoperative when commissions exceed the minimum. The Cowan & Dengler fee remains in force regardless of what billings run to. But—and this is significant—the firm never rebates commissions or cuts rates. When commissions exceed the fee.

St. Paul's Winter Carnival Is Big Business



Spring is the traditional season for community festivals, but St. Paul, Minn., flouts the tradition every year and runs a winter carnival. Started in 1886, revived in 1937, the carnival is big business now, has a permanently-staffed organization.

In the ten days starting Jan. 26., there will be 17 special



trains bringing winter sports fans (and cash customers) to St. Paul for the hockey, ski jumping, speed skating, curling, snow shoeing, and tobogganing; and to ogle such carnival attractions as ice houses (below) and floats (above).

To St. Paul retailers and manufacturers the carnival means a sales boom in winter sports clothes and equipment. Just the business of outfitting the 30,000 marchers in the carnival parade isn't to be sneezed at; because they don't wear cheesecloth and crepe paper in St. Paul in January, but \$3.25-a-yard woolens, running up an investment of some \$450,000.

There are about 150 marching clubs (right, above) in the parade, each club sponsored by a bank, railroad, department store, or some other business or civic organization. And the boss of the office is likely to be marching in the back row, taking crisp directions from the junior clerk in command of the club.

The Winter Carnival Association, a non-profit corporation with a membership of 25,000, is financed by the sale of privilege-conferring souvenir buttons at \$1 each, by contributions, assessments on concerns profiting directly, and gate receipts from pay events—like the ice follies, and the dances which feature "name" bands. The carnival association has already given the municipality ski and toboggan slides that are worth \$15,000.

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the surplus goes into a reserve fund which is used for special service beyond the normal limit of agency work, such as merchandising research and sales analysis.

Not all of the C. & D. accounts are handled on the fee system—perhaps not more than half. Early in their partnership, Stuart Cowan and Horace Dengler learned that the fee system, whatever its seeming advantages, couldn't be developed, tested, or sold overnight. To stay in business, they offered advertisers a choice—fee or commission.

Persuading—and Checking Up

Last August, C. & D. began a series of letters to about 1,000 executives in about 300 companies. The letters were built around the claimed advantages of the fee system. Most of them boil down to the contention that an agency operating on a set fee is freed from the danger of putting undue emphasis on commissionable billings.

In December, having prepared the way with earlier mailings, Cowan & Dengler sent a questionnaire on the fee system to their mailing list. Replies are still trickling in, but by last week nearly 100 had been received and C. & D. claimed the answers were leveling off to conform with earlier tabulations.

In answer to the broad-interest question, "What is your opinion of the usual 15% arrangement?" the replies ran as follows: 72% called it unsatisfactory; 22% said it was satisfactory; 6% had no fixed opinion.

No matter what their opinion, the voters were asked to comment. The most common objection to the 15% method was that it was inequitable to the agency on small accounts and to the advertiser on very large accounts.

Want No "Price-Cutting Anarchy"

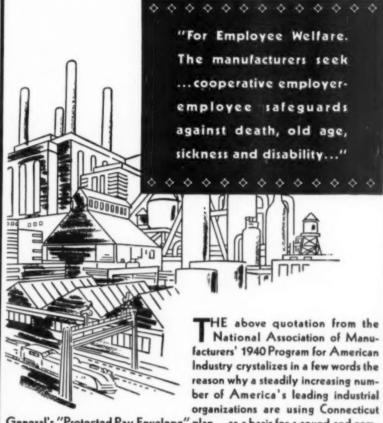
The principal advantage of the 15% commission appears to be that it fixes compensation once and for all. Most agency men are willing to admit that the 15% isn't a perfect system of compensation, but they fear that anything else would be worse. They say that if all agencies were bidding for business, the result would be an anarchy of price-cutting—one that would lower the standards of the whole business.

Stuart Cowan and Horace Dengler agree to that thesis—that price-bidding would be fatal. But they're as strongly of the opinion that the modified fee system they've worked out does away with some of the evils of straight-commission without incurring the sins of price-cutting. And the fact is that competitors don't complain of the C. & D. system.

It's been nearly five years since agency compensation was last a really burning issue. In 1933, a committee representing agencies, publishers, and advertisers engaged Prof. James Young of the University of Chicago to study the subject. The Young report OK'd the 15%. Dis-

INDUSTRY SPEAKS FOR ITSELF

THE 1940 PLATFORM FOR AMERICAN INDUSTRY



General's "Protected Pay Envelope" plan...as a basis for a sound and comprehensive plan of employee security ... as a certain builder of better employer-employee relations...and, in no small way, as a factor in good public relations.

Investigate "The Protected Pay Envelope" plan and find out how thoroughly practical and flexible this new coordination of Group Insurance can be . . . how valuable it is as a supplement to the protection provided by Social Security benefits . . . how it can apply with telling effect to the particular problems of your organization.

"The Protected Pay Envelope," a booklet describing this modern plan of protection, and another important booklet just off the press, describing the amended Social Security Act effective Jan. 1, 1940, are yours for the asking. Have your secretary write for them today.

Connecticut General
LIFE INSURANCE COMPANY

Hartford

Connecticut

THE PROTECTED PAY ENVELOPE

Life, accident, sickness insurance, annuities, and all group lines

satisfied national advertisers didn't like the findings, charged that Young, an exagencyman, was biased. Therefore, the Association of National Advertisers engaged Albert E. Haase to make a study of the question. The Haase report damned the 15% as the Young report had whitewashed it.

The final upshot was that, early in 1935, the American Association of Advertising Agencies issued a criticism of the Haase report, tearing it down and building up the Young report. Since then the fires have been banked.

Radio's Biggest Year

Sales of receiving sets hit 9,100,000 in 1939, beating previous record by 11.5%.

Unit sales of radio receiving sets climbed to 9,100,000 in 1939, which means that the year was the best the industry has ever known. It was 30.4% ahead of 1938 and 11.5% over banner 1936 (BW—Jan29'38.p37)—and manufacturers have a hunch they're just hitting their stride for 1940.

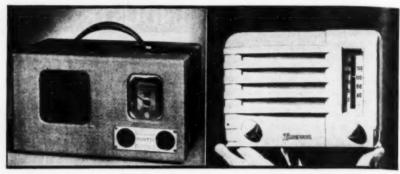
Biggest factor in the upswing was the war in Europe, which skyrocketed September and October sales, helped keep exports ahead in spite of the closing off of some European markets. Unit sales from January to June registered monthly increases of 13% to 25% above 1938, largely as a result of the introduction of the battery portable and "micro-midget" models.

The battery portable went over to the tune of 850,000 sales during its first year on the market (about 2,000 were sold at the end of 1938). The micromidget was introduced originally by Detrola in 1938, failed to catch on generally until Emerson began marketing it last spring. These receivers, small enough to hold in the palm of the hand, retail for as low as \$6.95 and are the chief reason for the decline in the average price per set from \$34 to \$31 in 1939.

Auto Radio Sales Leap Ahead

Figures compiled by Radio Retailing show that a good year for the automobile industry means a good year for auto radios, which jumped to 1,150,000 unit sales last year, an increase of 26.4% over 1938's 910,000. The trade estimates that one out of every five cars on the road is now equipped with radio.

Compact table models—biggest selling item on the market—went from 4,180,000 unit sales in 1938 to 4,825,000 in 1939, a 15.4% increase. But consoles, once the forgotten model of the industry, registered a 16.9% jump, from 1,540,000 to 1,800,000 unit sales. Total value of all sets sold (computed from list prices) showed an 18.75% increase—from \$240,000,000 to \$285,000,000.



The war, the battery portable and the micro-midget radio—three reasons why radio set sales in '39 soared \$2,000,000 higher than in '38.

Units exported totaled 519,000, a 30.4% increase over 1938's 482,000. This is largely attributable to bigger purchases by Latin America. Improvement of local stations, combined with immediate interest in foreign news, makes the countries south of the Caribbean a big potential market for U.S. receivers (BW—Jan13'40,p46).

Manufacturers place their hopes for 1940 on expectations of general prosperity, which helped to up sales in '39's fourth quarter, when Christmas buying accounted for 40% of the year's business, and continued interest in the war.

Fight for the Ether

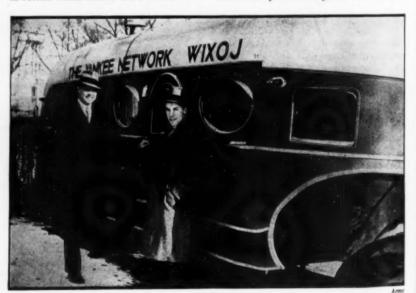
Frequency modulation group wants to take one channel away from the television interests.

The makings of a major contest for space in the ether have been shaping up in recent weeks before the Federal Com-

munications Commission. On one side are the television interests, who have been squabbling among themselves during the past week before the Commission, concerning the advisability of establishing transmission standards for the public, but who present a solid front in demanding that the ether space now reserved for television be kept intact for that purpose. The opposed group, soon to have its day before the Commission, is composed of those broadcasters who have an interest in the new "frequency modulation" system of staticless broadcasting developed by Major E. H. Armstrong.

This new system of broadcasting has proved its merit so impressively and rushes ahead so rapidly toward commercialization that well over one hundred applications have been received by the Commission, within the space of three months, mostly from established broadcasters, for permission to erect experimental frequency modulation stations.

The f-m stations occupy the region of the ether spectrum adjacent to that used



Senator Henry Cabot Lodge, of Mass. (left), examines the frequency modulation radio broadcasting equipment which is being exhibited on the slopes of Washington's Capitol Hill by New England's Yankee Network—an ardent advocate of this new method of broadcasting.

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The National Retail Dry Goods Association, at its annual convention in New York last week, elected Frank M. Mayfield president for 1940. Mayfield, head of Scruggs-Vandervoort-Barney, Inc. in St. Louis, succeeds Saul Cohn, president of City Stores Corp., as chief of N.R.D.G.A.; he predicts that retailing will at least show a continuation of the increases of 1939, is likely to finish up this year with a 5 to 10% gain.

for television, and unfortunately there seems to be insufficient space for all the requests in the region now reserved for f-m broadcasting. So the proponents of the f-m service urge that one channel be taken away from television and turned over to frequency modulation. This channel for one television station would accommodate 30 new frequency-modulated stations, since the requirements for sending sound are much less strict than those for sending pictures.

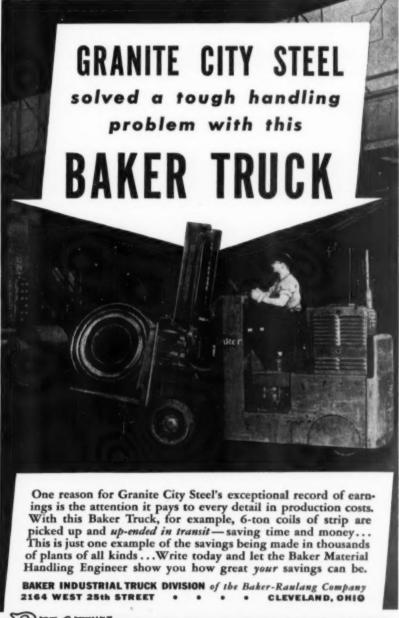
Getting Set for Hearing

The opportunity for the f-m group to present its side of the case will come Feb. 28, when a hearing is scheduled before the Commission to review the evidence. In preparation for this meeting several of the more active f-m broadcasters have formed a corporation, "FM Broadcasters, Inc." The membership of this group includes, as chairman, John Shepard, head of the Yankee Network, and executives of several of the major broadcasting stations in the country, including WOR, Newark, N. J.; WTIC, Hartford, Conn.; WGN, Chicago; WTMJ, Milwaukee; WHAM, Rochester, N. Y.; WQXR, New York; and WDRC, Hartford-all of which have permits to construct and operate f-m stations in addition to their conventional broadcasting facilities. Assisting the FM Broadcasters is an engineering committee including representatives from the engineering departments of every major broadcasting chain in the country, including NBC and CBS, as well as such big manufacturers of equipment as Westinghouse and General Electric.

Contrasted with the clear-cut organization of the frequency-modulation group, the television interests seem to be working at cross-purposes. In a hearing before the Commission during the week of Jan. 15, originally called to consider the Commission's report on the commercialization of television, the television interests spent

most of the time defending and attacking the standards of television transmission now used for the public services in New York and Los Angeles. NBC, which is offering public program services, has urged that the present standards are satisfactory, and asks only that permission be granted to charge a fee for use of the facilities. Several other organizations, including those who had a hand in the formulation of the present standards, have suddenly reversed their stand.

The gossip in the industry has it that these stands are being taken, at least in part, for commercial reasons, to enable the laggards in television to catch up with the pioneers.



aker industrial trucks

Holding your own as a business executive—



is easier with the aid of these books

There is nothing sadder than the cases of star performers in production, in sales, accounting, or other departments of business practice, who fail to take hold when faced with executive duties and opportunities. There are definite approaches and methods, being used successfully in many fields of business administration right now, that would help these men if they could get a clear-cut survey of them. To provide a comprehensive, adequate treatment of these essentials and methods, this library was prepared.

Milton Wright's LIBRARY OF BUSINESS MANAGEMENT

6 volumes, 1973 pages, 51 x 8

HERE is a set of books that you can use for immediate help in specific problems, small and large—also to master the definite patterns underlying methods, get the knowledge of all business that cannot be gotten from the day's job alone. Here are books that you can use to clarify your conceptions, and make more effective your handling of the problems of analyzing, planning, and directing—in short, to get a real grasp on the reins of successful executive leadership.

Subjects covered in the Library

- —How to organize a single department or a whole business . . . plan and control its workings . . . provide and maintain the most happy and efficient personnel
- —How to keep the life-blood flowing in business . . . where and how to get money . . . how to utilize it . . . how to keep the business in sound financial condition
- --How to reduce credit losses . . . handle the important elements of credit policy . . . modernize your collection system . . . write better letters . . . put the
- company's correspondence on a more economical and effective basis
- —How to lay out a workable approach to marketing methods . . . improve the sales organization . . . develop promotion ideas . . . stimulate results in any of the several avenues of marketing
- —How to do more work yourself . . . conserve and direct your energies . . . and how to handle scores of problems, small and large, detailed aspects of these important fields of business activity.

10 days' examination on approval; small monthly payments

How the books fit your own individual case may be determined from an examination of the books themselves. They will be sent on receipt of the coupon below. Should you decide to keep them and employ their many helps, then send only your first small remittance, and the balance in monthly payments, while you use the books—paying, in all, no more than you would if the books were purchased individually and without the installment payment privilege. See how they can serve in aiding your own progress, Mail the coupon today.

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New Cletrac Alliances

Sales plans highlighted by Ward deal include arrangements for use of Avery outlets in South,

Montgomery Ward's deal with the Cleveland Tractor Co. for handling the Little General wheeled tractor, and with B. F. Avery & Sons Co. for handling that firm's line of farm tools (BW—Decg 39, p36), has given birth to a new group of specialized farm stores. The mail order house expects to have about 50 of these stores in operation by the opening of the spring selling season.

Corollary to this is another arrangement, between Cleveland Tractor and Avery, whereby Avery (with headquarters at Louisville) acts as distributor for Cleveland farm tractors throughout the South. Cletrac, in turn, will distribute the Avery implements in its eastern territory.

At the same time, Cletrac is enlarging its own selling organization for both the agricultural and industrial markets, and for both crawler and wheeled tractors.

The new Cletrac program is the fruit of a considerable executive reorganization. Last April Herbert P. Mee became executive vice-president and W. Ellzey Brown was named vice-president in charge of sales. Mee had been treasurer, then vice-president in charge of sales of the Caterpillar Tractor Co.; Brown had been Caterpillar's sales promotion manager, previously with Allis-Chalmers.

In the same period, the Cleveland company introduced both the Little General, a rubber-tired wheeled job to sell for \$595, and an addition to its crawler line

at \$895.

Higher Volume Brings Profits

The Cleveland company's tractor sales for the last quarter of 1939—first quarter of its fiscal year—were a little more than double what they were in the same quarter of 1938, and with few sales then made through Ward. Cletrac operations for the quarter were profitable due to the increased volume in all lines.

On Tuesday, Philip H. Noland, vicepresident of Avery, met in Cleveland with President W. King White and other officers of Cletrac to go over the program.

Cletrac is also announcing arrangements with the Massey-Harris Co., Ltd., to distribute the Little General in Canada. Cletrac has sales alliances for its crawler tractor in industrial fields with the Heil Co. of Milwaukee, Gar Wood Industries of Detroit, the Buckeye Traction Ditcher Co. of Findlay, O., and Maine Steel, Inc., of South Portland, Me.

The new Ward stores are to be in buildings separate from existing stores, although some will be in the same cities. Plans are understood to go considerably beyond the number of stores contemplated by spring.

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PRODUCTION

New Mirror Process

Libbey · Owens · Ford buys control of new method of silvering mirrors by spraying.

UNTIL 1939, the principal tool of mirror making was a big, white china pitcher identical in all respects to the water pitchers which graced bedrooms in the pre-plumbing days. From such a pitcher, the silvering solution was poured by hand onto a sheet of glass lying level on a table. This method is still used by practically every one of 500 American mirror manufacturers either belonging to or known by the Mirror Manufacturers Association. How many other small operators are producing mirrors for the handbag and novelty trade is anybody's guess-probably 300. Reported annual average output of mirrors is about 80,-000,000 sq. ft., with a value of approximately 852,000,000.

Three manufacturers, however, licensed and equipped by Peacock Laboratories, Inc. of Philadelphia, are trimming silvering time from a traditional half-hour "reduction" period to less than a minute by a spray process developed and patented by William Peacock, founder and president of the laboratories. The three new spray outfits are in the Dallas, Tex., plant of Binswanger & Co., The Philadelphia plant of Hires-Turner Glass Co., and the Egg Harbor, N. J., plant of The Nurre Cos., Inc.

From Pitcher to Spray-Gun

Secrecy about the process was lifted after the papers carried brief word early in January that the Libbey-Owens-Ford Glass Co., of Toledo, had purchased Peacock Laboratories and that Mr. Peacock would continue as president.

A typical silvering solution poured from the old-type china pitcher consists of (1) a water solution of ammonia and silver nitrate, and (2) a water solution of Rochelle salts or tartaric acid or even sugar. When mixed and poured on glass, which has been duly prepared by washing and subsequent wetting with a tin chloride solution, the silvering solution goes through a series of complicated chemical changes, causing pure silver to plate out on the glass. The complete reduction takes about half an hour. A few years ago, Mr. Peacock speeded up the handling of mirrors by installing conveyorized tables in twelve mirror plants, but the actual job of silvering remained a half-hour job.

For the new spray silvering process, a pneumatic spray gun with two concentric nozzles is used. From one issues the standard ammonio-nitrate solution; from the other a secret new reducing agent



a Belt Engineered to the Drive -Cuts Maintenance Costs

The transmission belt that saves the most money . . that operates most efficiently for the maximum number of years ... is the one with advanced, rugged construction features engineered to the specific drive—and that's Republic's Challenger. This record-making serviceability of Challenger Transmission Belting starts with rigid selection and testing of fabric and rubber compounds, duck construction that Youngstown, Ohio.

prevents internal chafing and practically inseparable adhesion between plies. These elements are built into a composite unit-important factors of the drive (such as size and width of pulleys, speed and load required) serving as a pattern, along with Republic's own manufacturing specifications. Republic Rubber Division of Lee Rubber and Tire Corporation,

ORDER REPUBLIC RUBBER PRODUCTS FROM YOUR DISTRIBUTOR

HOSE . BELTING . PACKING . MOLDED PRODUCTS



And find it the answer to the vital problem of providing fresh foods and cold drinking water for their crews.

In addition to numerous submarines, Frick Refrigeration is used for a variety of services on many destroyers, cruisers, and battleships of the U.S. Navy.

Proud of our part in the Nation's First Line of Defense, we are equally proud of the service Frick Refrigerating, Icemaking and Air Conditioning Equipment is rendering to more than 50 industries and businesses.

Let us quote now on the cooling equipment you need.





Expect More Than Just SPEED!

Expect a lot of speed...smooth speed ... but also expect protected comfort on Coast Line trains!

Coast Line gives you your choice of 7 Fine Trains Daily. Each thoroughly modern; air-conditioned and air-cooled. Each swiftly gliding over the only double track route between the East and Florida—with the added safety protection of automatic signals and train control.

Choose Pullman or coach accommodations exactly suited to your needs...a departure and arrival time that saves additional precious hours. For here is the greatest variety of train service ever offered Florida visitors. Fares are lowest. Consult your local ticket agent and make your reservations now.

The DOUBLE TRACK-SEA LEVEL Route

COAST LINE



A china pitcher was the principal tool in mirror making, until a spray process of silvering was developed by Peacock Laboratories.

which is a pretty important part of the Libbey-Owens-Ford deal. Already the new process is being extended experimentally to gold mirrors, made by depositing a thin layer of gold from gold chloride solution on the glass and then backing it with silver. Glare-absorbing gun metal mirrors for "see-back-ascopes" on automobiles, and novelty copper mirrors are both contemplated.

Significant thing about the speedy new process is that it permits progressive production of articles which have always been handled in batches. With the pitcher method on ordinary tables, the cost of silvering a quality mirror has run about 5¢ per sq. ft. With conveyorized tables the cost dropped to around 3½. With conveyors and sprays, cost estimates run around 2½¢. Mirrors are brighter, longer-lasting.

Next on the agenda of spray applications are the silvered linings of thermal bottles, mirror-lined glass doorknobs, reflecting buttons on highway warning signs, "transparent" mirrors for advertising, and the hollow, blown-glass decorative figures sold at Christmas.

NEW PRODUCTS

Hydraulic Door Operator

CONNECTED TO THE CITY WATER MAIN, the Standard Hydraulic Door Operator permits garage or any other doors to be



opened or closed, locked or unlocked by remote control from any point desired, such as a post beside the driveway. Caltemp Co., 1001 E. First St., Los Angeles, makes it with either mechanical or electrical control.

Rug Snug

FOR THE PREVENTION and cure of skidding rugs, The Ward Co., 33 Allyn St., Hartford, Conn., recommends its new Rug

Snug, a special cotton mesh fabric impregnated with secretly processed oils. The odorless, washable material is laid between rugs and floors.

Portable Lighter-Upper

To spot- or Flood-Light objects or operations not sufficiently illuminated by a general lighting system, the compact, portable, caster-mounted Circulite comes



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at the Refrig

Buffs

handy beer, from Steber Mfg. Co., 1020 W. Adams St. Chicago. Light source is the new "sealed beam," 150-watt projector lamp, spot or flood type.

Skiers' "Eyetogs"

EXPERIENCED SKIERS cooperated in the design of Polaroid Eyetogs—new, non-breakable, eye protectors coming from Polaroid Corp., 730 Main St., Cambridge,



Mass. They set away from the forehead to prevent fogging by perspiration, keep out wind and snow, reduce light intensity and glare generally by polarization.

Solder Applied with Brush

Soldering is made a simple, tool-less job with Meltomatic Paste Solder, a self-cleaning and self-fluxing compound of Wayne Chemical Products Co., 9450 Copeland St., Detroit. Paste is brushed on a joint and heated to a temperature a little above 400 deg. F—that's all.

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Buffalo, N. Y., gives its customers a handy "Bevwell" for refrigerating milk, beer, etc. Top compartment provides moist cold storage for fresh vegetables.

GO AS FAR AS YOU LIKE!

Although the products on this page are vastly different from one another—although you may not make anything that resembles any of them—they have a certain kinship that may indicate a world of possibilities to you.

They suggest how Durez plastics lend vision to design...how readily this modern material can be used to give strength, reduce weight, increase beauty in countless ways. Like all products molded of Durez, they have a lustre of finish, a smoothness of surface, a symmetry of form that delights the eye and the touch—proclaims outstanding quality.

Why not look over your product for parts that can be made better and more simply with Durez plastics? Our engineers will be glad to help you—as they have assisted hundreds of other manufacturers during more than a decade. Just write Durez Plastics & Chemicals, Inc., 641 Walck Road, North Tonawanda, N. Y.



BECAUSE it is unaffected by hot coffee and will not impart any foreign flavor, Durez was chosen for the upper bowl of the new Cafex Coffee Maker.



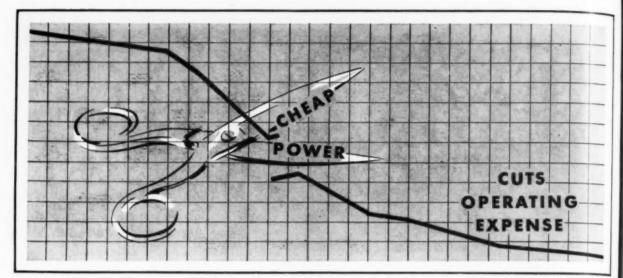
THE LULLABY BED LAMP RADIO is easy on the eyes and ears in more ways than one. It has a handsome housing molded of lustrous mottled Durez plastic!



THE MOLDED DUREZ HANDLE which graces the Steem Electric Iron combines heat and moisture resistance with good looks! A special Durez compound was used.

DUREZ PLASTICS & CHEMICALS, INC.

Plastics That Fit The Job



...and there's UNLIMITED POWER at

THESE ADVANTAGES

are but the fundamentals of many favorable conditions making Chesapeake and Ohio Territory an economic field of operation for many industries.

- RAW MATERIALS of many kinds; abundant, near at hand, economically secured.
- INTELLIGENT LABOR—native-born; largely skilled in a diversity of industries; well housed; peaceful and cooperative.
- NEAR TO MARKETS—major consuming areas within first, second or third morning delivery.
- EXCELLENT TRANSPORTATION—favorable freight rates and dependable service keep markets and manufacturers in economically close touch.
- CHEAP POWER—abundant coal, oil, natural gas and hydro-electric developments assure this region of unlimited power at most economical costs.
- COOPERATIVE LEGISLATION—Industry is king in Chesapeake and Ohio Territory, and the legislatures of the five great States in which it lies are friendly toward the needs and aims of enterprises they invite and those they already have.

in Chesapeake and Ohio Territory

In Chesapeake and Ohio Territory, power puts a minimum strain on industrial production budgets. Running through Virginia, West Virginia, Kentucky, Ohio and Indiana, Chesapeake and Ohio Lines serve a region uniquely rich in fuels, remarkably equipped to convert these resources into cheap power.

In the central portion of this territory lie the country's greatest deposits of all-purpose bituminous coal and enormous reserves of petroleum and natural gas. All are economically available to industries, for steam, furnace, and general manufacturing purposes.

Thanks to low-cost fuels and the many important rivers in this region, steam-electric and hydro-electric power are supplied in unlimited quantities at exceptionally low rates.

Power is a major economy factor in this territory—and so is the abundance of raw materials and of native-born, contented labor...excellent transportation facilities...availability of industrial sites...cooperative legislation...and the fact that 70% of your national market is within first to third morning delivery range.

What do you seek in a more advantageous location? Complete and impartial factual surveys for your specific industry will be furnished on request. All inquiries will be held in strictest confidence. Write

GEORGE D. MOFFETT, Industrial Commissioner
CHESAPEAKE AND OHIO LINES
Huntington, West Virginia







BUSINESS WEEK REPORTS TO EXECUTIVES ON

FACTORIES FOR THE 'FORTIES

This report, timed to meet a rising interest in its subject, has been designed and constructed by the Editors of Business Week to advise executives on what is new and significant in the materials, trends, and economies of plant design, construction, and modernization. It offers no advice on the economics of industrial capacity, a matter frequently discussed in Business Week; it assumes that you have digested the lessons taught by war and depression, learned that it is better to forego abnormal orders than to be burned by unjustified expansion. But if, by all sound tests, the extensive modernization of your plant, the building of additional plant, or the replacement of an old plant by a new one seems a wise move, then these pages can help to keep it wise through the information they provide on the wide range of choices in materials and techniques now available to you in planning to build for your particular needs. This report will, by no means, make a designer or builder of you, but it should go a long way to facilitate effective cooperation with your designers and builders, to ensure intelligent appraisal of the construction materials and services you buy in terms of the job your plant has to do.

Number 21 of a series of special reports on current business opportunities problems and trends of outstand-

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Factories for the 'Forties

So You're Going to build a new factory. You and your board of directors have been sitting in a series of special conclaves since last September. Your sales department has been on your neck for bigger, faster production. Your production department has successively rearranged manufacturing equipment in an effort to eliminate bottle necks, added brand new equipment, hired new workers to bring your force to a three-shift basis. With considerably increased shipments, your back-orders continue to pile up, and your customers are in your hair.

You have heard industrial leaders, construction industry leaders among them, warn against avoidable expansion, emphasize the depression's lesson that a dollar in cash or negotiable securities can be worth many dollars in frozen realty. You have noted the excess of national plant capacity reported by the Brookings Institution. And you have listened to recent admonitions that, before you build, every effort should be made to farm out work on contract

or to utilize idle plants already in existence.

But your business is such that you must keep the closest kind of control of each step in production. You've got to be as near as possible to the sources of your principal raw materials. You've got a tough power problem. You will be completely stymied if you move too far from your customers. Whether or not expansion is dubious in principle, the fact is that you have simply got to build a new factory. So what?

Outside or Inside?

The first major decision facing you is whether you will saddle your own force with the whole job of planning and supervising the erection of the new building or will call in a competent firm of engineers and architects to handle the works. You have plenty of precedent for either procedure. Until very recently, when Republic Steel "went outside" for housing a continuous rolling mill, practically all the big steel companies have handled their own construction, sometimes to the point of excluding building contractors. International Business Machines builds its own, and its success cannot be gainsaid.

At the same time, other outstanding leaders, such as Ford, General Motors, Chrysler, Procter & Gamble, General Foods, find it more profitable to concentrate their energies on sales and production, while utilizing the accumulated experience, skill, buying prowess, and brain-power of specialists in the highly organized, complicated job of economical, speedy, and effective construction. The decision between your own force and outside forces must

be made.

Meanwhile, you and your production department have been canvassing the market for new methods, materials, and equipment to do your particular job. You have been synthesizing your ideas in plan form on paper, making "ideal" production layout after layout. You have been checking the pluses and minuses of each successive plan spotting and eliminating the bugs while they can be exterminated with an eraser, and holding to the schemes which will provide the least possible headache.

Right now, if you've decided to call in outside experts is the time to get going with them. Their engineers have worked with dozens and hundreds of plant layouts. Frequently, they have found that a short cut they used in a candy factory can be adapted and adopted for the manufacture of a 2000-hp. diesel; a belt conveyor, less than 2-in. wide, but exactly similar in principle to the giants they have installed to transport hundreds of tons of bulk materials per hour can replace clumsy human fingers in such jobs as expediting tiny glass insulating beads from one operation to the next in an electrical appliance plant Unless your own engineers have been drawn from even manufacturing quarter, it will be impossible for them to perform in like manner. There are at least a dozen nationally known firms of engineers and architects, and probably more, whose engineers have had national and international experience in working with the plant engineers of their clients. They know how to cooperate without time-consuming fuss and friction.

While the engineers are doing their stuff, and you are getting a pretty good idea of how much floor space you are going to need for your new operation, you and your



Contrary to standard practice, production machinery is on the second floor, die storage on the ground floor of the River Rouge press shop designed for Ford

Motor Co., by Albert Kahn, Inc., Detroit.

*All ten factories, whose photographs illustrate this Business Week Report in Executives, are those chosen by McGraw-Hill's Engineering News-Record and Factory Management and Maintenance for description in their most recent in cial issues on building.

BUSINESS WEEK

young men are canvassing the site situation. Either you have plenty of room for present and future expansion in your present location or you haven't. Possibly you would be a whale of a lot better off, economically, productionwise, and labor-wise, if you packed up your old facilities and pooled them with the new in a brand new location. Just as possibly, you may be better off to decentralize, putting up the new factory in an entirely different section of the country.

Whatever your ultimate decision, you will have carefully considered all facets of your problem: raw materials, power, markets, labor, shipping (water, rail, highway, air), taxes, climate, raw water, fire protection, what-haveyou. And you will, if you are wise, have discussed the site matter with your architect and builder before signing any land purchase or rental agreements. Foundations can he a major or a minor item of building cost, depending upon the character of the ground and the loadings they will be called on to bear. Pile driving and caisson work in unstable ground will naturally cost more than simple concrete footings on good solid hardpan. Furthermore, there is always a likelihood that certain more or less hilly locations may permit you to employ gravity, instead of power and muscle, in moving your product through the various stages of production.

Dilemmas Self-Resolved

Once you have got your production layout in workable and economic shape, several dilemmas which normally impale the ordinary prospect for a new factory will have almost automatically resolved themselves for you. You will know, for example, with very little further study whether you will go into multi-story or single-story construction. If your work is such that columns will not impede the free flow of production, or if it is light enough to permit hoisting raw materials to a top floor and letting gravity carry products through various stages to the bottom floor and shipping platform, you can go into multistory with a light heart and easy mind.

On the other hand, even if your stuff is light, you may have a future expansion problem. If so, will you be able to bridge easily to new multi-story buildings or will it be better to keep everything in one room on a single floor where you can push outward to all points of the compass? As Harold V. Coes, manager of the industrial department of Ford, Bacon & Davis, Inc., says, "It all depends upon conditions."

When you consult your banker on your building project, he is likely to favor a "general" rather than a "special" building, i.e., one built on broad plans which might accommodate any one of several varieties of manufacturing, rather than a special "building designed around a process," as in many of the chemical industries. Something in the back of his mind tells him that empty general buildings are easier to sell than specials. He can be forgiven if his all around banking experience makes him think of the day when your new building may have to go "on the block." If you want a plant designed to fit your job, it will be up to you to have the figures ready to show him the production economies of such a program. And, in that case, it may pay you to quote Paul L. Battey, of the engineering and building firm of Battey & Childs:

"The building may serve merely to protect the opera-



Multiple-barrel, thin-shell, steel-reinforced concrete roof construction of a new type helps to keep cool the Natchez, Miss., plant of Armstrong Tire & Rubber Co., designed by Roberts & Schaefer Co., Chicago, and built by B. L. Knost of Pass Christian, Miss.

tion from the vagaries of the weather, but many structures, particularly of the special type, can serve more than this single purpose, such as the common support of roof and traveling cranes. . . . The perception of opportunity for multiple use of building structures . . . is a valuable faculty for the designer as it many times leads to a most economical use of capital investment."

If your manufacturing consists of a comparatively simple series of operations requiring no special housing conditions, you may be able to go in for a "ready-cut' building of the "stock," or "unit," type like those furnished on short order by Blaw-Knox Co., Butler Mfg. Co., Maryland Metal Building Co., Truscon Steel Co., and many others. If the new plant is "needed yesterday, or if there are few special process problems, such a stock building may be the entire answer. Or it may be just the right thing to take a mean between the two extremes, and erect a plant of "standard units," with standard-sized beams and girders and roofs, of the type pioneered by J. K. Ferguson Co., and used first in a big way during the former Great War in the 1,000,000-sq.ft. Curtis airplane plant in Buffalo, erected, equipped ready to run in many departments in a couple of months.

Special Construction Can Be Speedy

But even the erection of a big and highly special plant need not be slow, as witness the experience of Glenn L. Martin Co., of Baltimore, whose newest addition to its manufacturing facilities for big planes called for 440,000 sq. ft. of floor space under one roof—and was ready for operations (April 27, 1939) exactly eleven weeks from the day Mr. Martin told Albert Kahn, Inc., architects and engineers, to proceed with the drawings.

One debate—the windowless, or "controlled-conditions," plant vs. the conventional, windowed plant—was not yours to face until very recently. In fact, until the first complete controlled-conditions factory, designed and built by Austin Co. for Simonds Saw & Steel Co., became an actuality during the year just past, you did not really

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believe all you heard and read about it. Now you hear that the same firm of engineers and builders has finished a similar building for General Motors' Allison engine plant and that there is still another important one coming along. What's the lowdown?

Briefly, the executives of the saw company found themselves spread out into three plants with an aggregate floor space of seventeen acres. Supervision was burdensome. Costs were high. Control of the quality of their saws and cutting tools was becoming increasingly difficult. Though no one blamed the vagaries of New England weather for all their troubles, they became imbued with an old dream of a perfect factory: "A plant in an open meadow—a perfect day in June—if men could work under such conditions it would be ideal." If they could just have June weather conditions 24 hours a day in a single plant, with accurately controlled light, temperature, humidity, ventilation, and acoustics, they could forget these customary variables and concentrate on the big job of production.

So the engineers began going through the production layout with a fine-tooth comb. They found, for example, circular saws traveling 3,280 ft. through 152 machines before they were ready for shipment. Now they travel 1,050 ft. through 101 machines. By straightening out all the operations of the three plants, concentrating them under one roof, and dividing the work into two eighthour shifts per day, they could achieve the previous production of seventeen acres of floor space with five acres. With the production problem well in hand, the engineers could proceed with the design of the building.

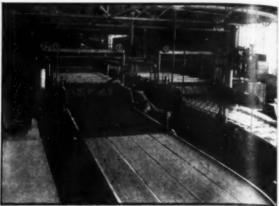
They Ruled Out Windows

Daylight is variable. So, too, temperature and humidity. Weather Bureau records covering a typical New England locality show six hours of sunshine, six hours of cloudiness, and twelve hours of darkness in the average 24-hour day. Almost automatically, if they were to achieve uniform light conditions, the engineers ruled out windows in favor of artificial lighting. With no windows for either light or ventilation, they turned to air conditioning. Air conditioning equipment took care of not only ventilation, but humidity, air filtration, and temperature—70 deg. F being the standard for winter and summer, with relative humidity held between 47 and 48%.

Upshot is the widely publicized windowless plant, a single five-acre room, containing no partitions and only 56 columns, lighted by fluorescent luminaries to a uniform 20 foot-candle intensity. Acoustically treated walls and ceilings combine with air conditioning to make possible the grouping of offices, drop hammers, heat-treating furnaces, machine tools, stock rooms, etc., on one floor and under one roof with comfortable working conditions for all workers.

After the first few months' operations, the management credits the new plant with a reduction in costs and improvement in quality. Workers, who thought that a windowless plant might make them feel that they were "spending their lives in jail" now say, "With good light you don't know whether there are windows or not. You don't bother to look for the sun on a nice day."

Strangely enough the efficiency of fluorescent lighting is such that less is being paid out for current than with



Typical of how manufacturing processes can be engineered right into a factory building are the two annealing lehrs for Pyrex glassware at Corning Glass Works Fall Brook Division. The new factory was designed and built by H. K. Ferguson Co., Cleveland.

the former setup. C. K. Simonds, general manager, reports, "In the three old plants it cost \$17.12 for current for one eight-hour shift even though daylight was carrying a large part of the load. . . In the new plant . . . where columns have been reduced to a minimum, the cost is only \$11.90 for the same eight-hour period."

While you and your associates are pondering the advisability of a controlled-conditions plant for your particular business, wondering whether your kind of workers will cotton to the idea, remembering the air-conditioned theater where you almost froze stiff, but at the same moment recalling that air-conditioning controls have now been brought to a high state of precision, you will be getting along with your plans. Soon your own engineers or the outside engineers will be calling upon you to okay the foundation detail.

Crack Insurance

The best foundation for you or anyone else is the one which never lets you know its presence throughout the life of the building which it supports. If it proves faulty, subtly advertising its delinquencies by unsightly wall cracks, misaligned shafting, leaky pipes, or roller coaster floors, you will know that either one or both of two things were neglected: (1) Soil test borings and load-bearing tests were not properly made and analyzed; (2) The right foundation for the given soil condition was not designed and installed.

Since railroad builders have generally taken advantage of favorable grades along streams and water courses, and industrial builders have ever sought sites adjacent to adequate transportation, the latter frequently run into soil conditions so unstable as to require the most careful check. Whether you go in for spread footings of concrete, piles of wood, steel, or concrete, caisson work, or even "floating mats" in extreme conditions, depends upon two factors: (1) the soil structure; (2) the kind of building loads. Will the buildings be comparatively static or will they be subject to vibration from heavy machinery and the transportation of heavy loads? Will there be other unus-

BUSINESS WEEK

ual conditions arising from your own particular kind of production?

Wrapped up with the foundation problem is the question of basements. Everyone knows that they provide relatively cheap storage space, from a first-cost angle. But can such storage be brought into proper relation with your production lines? Will you be up against problems of condensation moisture and of ground water when the annual spring thaw comes? Will possible deterioration of materials, products, and equipment stored below ground level more than offset any advantages of first cost?

Henry Ford solved the problem of die storage in his big press shop at River Rouge by making the first floor available for that purpose. Huge press equipment went to the second floor, even though this made necessary the carrying of expensive machine foundations up and through the storage space.

Your floors are going to get more abuse, mechanical and verbal, than any other part of your building. Unless your plant will be more completely conveyorized than most, there's going to be the mechanical wear and tear of trucking, the scraping of workers' shoe leather, the accidental dropping of material and product and equipment on the move. Whatever you install—concrete or wood or metal or combinations thereof—you're bound to have certain workmen who are "allergic" to a particular type of flooring. Concrete hurts their tender feet. Steel makes their back ache. You're damned if you do and damned if you don't.

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A Drainage Course Is Essential

Here it is best to adopt approved modern practice in the industry to which you are attached. Ground floor substructures tend pretty generally to concrete, except in wood-framed buildings, with steel reinforcing under any location which will have to carry especially heavy loads. Below the concrete a suitable drainage course is essential. So, too, are suitable expansion joints at walls and column footings. If yours is light manufacturing and you must perforce relocate mechanical and electrical equipment frequently, it may be well for you to borrow from office building practice and install a subfloor of cellular steel. Lines for electricity, gas, air, and water can be drawn through the cells with a minimum of difficulty and connections taken off almost at will.

Wearing surfaces must if possible satisfy the five major requirements of durability, nonskidability, ease of replacement, low cost of maintenance, and human cussedness. If your industrial trucks and tractors are equipped with rubber tires, your workers do not have to stand in one place too long, and your product will not be injured by accidental dropping, you can go into plain concrete floors. If higher durability is required, you can impregnate the concrete with iron filings, chipped granite, traprock, or coarse silica sand. Floor tops may be ground to a smooth, dustless surface with electrical or pneumatic grinders. Special conditions, such as are found in steel mills and foundries may be met with facings of steel, open steel grids or grids imbedded in concrete, brick, sand, cinder, clay, or earth. Other conditions may call for tile, linoleum, wood, rubber-natural or chemical-or asphaltic mastic.

Where trucking is involved, the exposed edges of any

concrete floor, between expansion joints or separate slabs, should be armored with steel angles to prevent chipping.

Wood blocks on a concrete base seem more and more to get the vote of machine shops and heavy manufacture generally. They are easy to replace when machinery is to be relocated. The wood provides insulation against heat loss and gain. Wood blocks also get the vote in certain lighter manufacturing plants on the score of resilience under workers' feet. But where resilience is the prime criterion, choice wood strip flooring is often used.

Economies in Sub-Structure

Flooring for the upper courses of multi-story industrial buildings presents plenty of opportunities for the ingenuity of engineers and architects. Not only are they faced with the same five major flooring requirements, but they have special chances for economies in flooring substructure. They can go in for poured concrete, precast concrete, or precast slabs of other materials like gypsum, all suitably reinforced with steel. Use of prefabricated floors shows an upward trend, particularly in locations where loads and vibration can be kept down. Cellular steel floors present special opportunities in upper floors because it is easy to suspend ceilings from them, where indicated. Wearing surfaces similar to those used for ground floors must, of course, be added.

Your own flooring problem may be complicated by certain wet processes, oily machines, chemical corrosion. Frequently it is enough to protect plain concrete with any one of several moisture- and corrosion-resistant paints and chemical treatments. If slipperiness is too much of a problem you can install non-skid "treads" of metal or plastics impregnated with abrasives. Monel metal floor plates with hardened studs are available, and stainless steel can be rolled with almost any desired non-skid pattern. In dealing with such important plant features as floors and roofs, engineers will naturally canvass all the producers of available materials to be sure of getting the best for the particular job to be done.



Engineering Nones-Record

Brick walls, relieved by glass block panels, suggest the interior cleanliness which was designed and built into the new multi-story baking-soda plant of Church & Dwight Co., Inc., Syracuse, by Austin Co., Cleveland.

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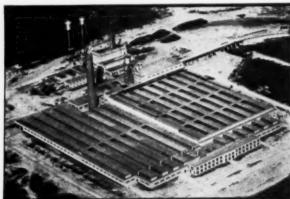
Roofs, strangely enough, provide more scope for personal opinion, conviction, and architectural argument than any other single element of industrial building design. For instance, Albert Kahn prefers monitor roofs to sawtooth, because he considers it difficult to get crossventilation with the latter. Furthermore, he likes the main monitor to run north and south. Henry Ford, who has been his client many times, agrees with him in his preference for monitors, but insists that his monitors run east and west.

Water on the Roof

Fortunately for you, if you are going into multi-story construction, the flat roof is almost universal. Even so, you will be called upon to decide whether or not you will surround your roof with a parapet, and you may want to consider provision for keeping the roof covered with a shallow sheet of water. In summer, the water will not only help keep your upper floor cool by evaporation, but will reduce the loss of volatiles in the impregnated felts so commonly used in various patented roofings. In winter, the same water can provide an excellent skating surface for your employees during off-hours.

If you do decide on a parapet, you should insist on properly designed, properly installed flashings to protect walls against moisture penetration and insure yourself against high future maintenance costs and tribulations. If, on a flat roof, you have to have a skylight, watch its design like a hawk. There is on the market a skylight with two sheets of glass separated by a partial vacuum which carries interesting claims of resistance against heat and moisture.

Roof designs for single-story structures are legion: While Mr. Ford is choosing his east-and-west monitors with smaller subsidiary north-and-south monitors like a litter of suckling pigs, the Landis Tool Co. is just getting into production in its new 66,000-sq.ft. erecting shop with a sawtooth roof. "It all depends upon conditions"—daylight, production layout, ventilation, local climatic conditions. One manufacturer in the "Snow Belt" of upstate New York has fifty snow shovelers on call night



Factory Management & Maintenane

The whole new plant of Industrial Rayon Corp., at Painesville, O., is built around a single process—the continuous spinning of rayon textile fibers. Wilbur Watson & Associates, Cleveland, designed it. Hunkin Conkey Construction Co., Cleveland, built it.

and day to relieve his sawtooth roof of snow when the weather man really gets going.

There are flat roofs and pitched roofs, pitched with monitors, and flat with clerestories or with low and high bays. Sawtooth roofs have many modifications. Both sawteeth and monitors may be had with vertical glass or glass block, or with inclined glass, the latter being somewhat harder to keep clean. Glass may be fixed or pivoted for ventilation. One patented monitor takes the form of a cubist snake running now north, now east, now south, now east, now north along the roof top. Monitors combine with sawtooth. Monitors find themselves atop monitors or paralleling other monitors, as in unit construction, where two or more unit buildings run side by side.

Roof framing depends largely on the number of columns, if any, chosen to give the freest flow possible to production. The old 16-ft. column centers of the milltype building, which were set not to accommodate production, but to use available construction timber, have long since given way to 30- and 50-ft, centers made possible by steel or some of the latticed wood trusses. And 60- and 100-ft. centers are not uncommon, though 50-ft. is generally acknowledged the maximum economical spacing from the angle of building cost. Truss and monitor framing is susceptible to wide variations in design. Although standard steel shapes will undoubtedly produce purchasing economies, there are continuing maintenance economies to be found in the smooth surfaces of welded beams and trusses, and of T-column frames wherein columns and trusses are welded into one integral piece, Several framing designs balance the weight of the monitor against the weight of the side roof on the cantilever principle. In this construction the column acts as a fulcrum, carrying the load alone rather than dividing it with the side wall. Economies in steel for wall framing are only one extra dividend.

Welding vs. Riveting

In general it is going to be to your best interest to follow the lead of your engineer and architect in choosing between welded and riveted construction or combinations thereof. If your new building will be right next door to an old one where workers' ears may be offended, or adjacent to buildings occupied by fussy neighbors, good industrial or public relations may dictate welding, or squeeze riveting and bolting, rather than pneumatic hammering.

On the score of comparative strength and permanence, there is little to choose between rivets and welds, whether the latter be gas or electric. Appearance favors welds; quick repairs and alterations somewhat favor rivets and bolts. Plant housekeeping is made easier and less expensive when there are no rivet heads to gather dust. The ultimate advantages offered by welding in economizing construction will not be fully realized until steel producers develop rolls which will produce structural T's with uniform thickness and stiffness in both directions. For some designs it is now necessary to split standard H-beams into T's to get members with the requisite characteristics.

Despite steel limitations, it is now possible and economical for both welders and riveters to fabricate trusses which will not only support the roof, but provide mechanical handling facilities right through truss open-

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Acoustical treatment in the windowless, fluorescently lighted plant of Simonds Saw & Steel Co., Fitchburg, Mass., holds down noise, permits the office to be located right next to production work. Austin Co., Cleveland, is responsible for design and erection.

ings-one of the significant developments of recent years. When you come to specifications for roof-covering materials, you will find that proprietary materials predominate. Rapid construction is facilitated by ready-touse products, and you can be reasonably sure that those which are nationally advertised are backed by years of research and application. As one experienced engineer says, "Leaking roofs occur more from lack of attention than from their inherent defects. A man with a tar pot and brush regularly inspecting your roof can keep it in excellent service for a long time." There is some tendency to dispense with gravel on roofs altogether or to replace it with ceramic granules coated with aluminum to reflect away the heating rays of the sun. And Ferro Ename! Corp. of Cleveland, is taking its own medicine by roofing its new all-porcelain-enamel plant with corrugated steel protected by its own porcelain enamel. Good oldfashioned galvanized corrugated steel roofing has been improved of late, not only by better methods of applying more adherent zinc, but by new fastenings which do not permit water to leak through nail holes. Asbestos-asphaltcovered corrugated steel and corrugated cement-asbestos continue to edge into the galvanized corrugated field.

Under the Roof

Although it is still common practice to attach corrugated roofing directly to roof framing, subroofs are necessary to support the various patented, or "specification," roofings. Such subroofs include precast slabs and planks of concrete, gypsum, cement mixed with sugar cane bagasse, cement mixed with cinders, cement mixed with vermiculite (heat-expanded mica), cement and asbestos, cement and wood fiber, sheet steel, stainless steel, monel, what-have-you. More and more there is an effort to insulate roofs against the heat of the sun in summer and the loss of inside heat in winter, which can amount to a good 50% of the energy used. Some architects not only allow for an air space between subroof and roof, but fill it with blankets or loose fillings of glass fiber, rock wool, aluminum foil, bagasse, wood fiber, vermiculite, etc.

Newest roof to attract notice is that of the new

Natchez, Miss., all-concrete plant of Armstrong Tire & Rubber Co., designed by Roberts & Schaefer Co. Here the manufacturer's production layout called for column spacings of 50 and 60 ft. lengthwise of the plant and 40 ft. crosswise. Since beams, girders, and stiffening members were not desired overhead in the plant, it was decided to pour concrete around steel reinforcing to a thickness of 31 in. over segmental shells of bent resinbonded plywood running the length of each 40-ft. bay. Once the concrete was set, the plywood forms were removed, resulting in a "barrel roof" whose inside surface "reflects the light sufficiently to save 15% in illumination costs." Ventilators carry off hot air accumulating in the crowns of the roof above the bays. When the exhausted air gets outside, it is slightly cooler than the outside air of a Natchez summer. It is reported to remain above the roof in the valleys between the rows of barrels, providing additional insulation.

Ingenuity in Walls

Your walls are going to give you almost as much opportunity for ingenuity and imagination as your roofs, Since the development of steel-framed structures which carry roof loads, you have had the freest kind of choice in siding materials: poured concrete, hollow tile, brick, cinder-concrete or other light-weight aggregate blocks (with or without stucco facing, hand troweled or shot on by "guns"), corrugated steel, corrugated asbestos-cement, porcelain-enameled steel-your ultimate decision depending both on manufacturing conditions and architectural predilections. If your new plant is far from economical sources of hollow tile and brick, you may be lucky enough to find good local supplies of gravel and sand for concrete. Again you may find fieldstone or other stone on your property which can be used either as concrete aggregate or piled up in wood or metal forms and bonded together with poured concrete. You may also want to go in for all-glass walls, utilizing either sheet glass or glass block. Your best bet may turn out to be an economic compromise which takes in the local building situation while giving you just the working conditions you desire.

If you are following a trend which gives you good heating economy in winter and a cooler plant in summer, you will want to insulate your walls, using any one of the materials available: rock wool, balsam wool, glass wool, metal foil, cork, wood fiber boards, bagasse boards, asbestos. Possibly you may want to use corrugated sheet siding covered with aluminum foil or copper foil to toss off the sun's hot rays.

Whatever you do in the way of masonry, protect it against frost and weather by paint or chemical treatment, and see that your maintenance crew watches it henceforth. Spalling can be prevented. Moisture penetration can be licked, in advance. Don't forget to specify expansion joints in long stretches of masonry or metal of any kind, whether the joints be mastic or metal or both.

Windows have long been associated with ventilation, although their major job is to admit daylight. With the coming of air conditioning and other means of mechanical ventilation, many manufacturers sidestep dust and noise with sashes which cannot open at all. Others prefer various types of swinging, rising, or sliding sash, metal or wood, with or without mechanical means of opening



Multiple-story design lets gravity do much of the work in the new Maxwell House Coffee plant of General Foods Corp., in Hoboken, N. J. H. K. Ferguson Co., Cleveland, not only designed and built it, but planned and installed the production equipment.

and shutting whole rows of windows. Metal sash continues to get a strong vote, whether steel, bronze, aluminum, or stainless. Steel should, of course, be rustproofed before painting, preferably by the sash manufacturer, or high maintenance will result. Glass blocks are more expensive than the best steel-sashed windows, but the insulating value of their inclosed air spaces, particularly when they are filled with spun glass fibers, justifies a price premium in certain locations. For orthodox industrial glazing, wire-glass gets the vote of most maintenance-minded manufacturers. For special purposes there are double-glazed non-frosting and non-condensing windows, tempered glass, safety glass, prismatic glass, and a host of others.

Whatever kind of glazing you finally elect for your own plant, there is one thing to bear in mind: windows should admit light; their installation expense is not justified unless they are kept clean. Be sure to provide quick and easy means for window washing, whether by catwalks, mono-rails, portable stages, or other devices.

Doors Can Open Automatically

Doors and their proper placement should receive far more attention than they ordinarily do in factory planning, because they can have a direct effect on the flow of production. They can be of metal or wood. Some day they may be plastic. They can hang from the top, rolling up and down like a roll-top desk; they can swing from the side; they can slide from the side. They can be single, double, or multiple. If there is a lot of traffic they can be opened automatically with comparatively simple electronic equipment, when a beam of light is intercepted or when a suitably equipped motor vehicle flashes prearranged "key radio waves." A watchman can handle the opening and closing of outside doors by direct or remote control. If he, or the light beam, closes the door too rapidly, a pneumatic tube mounted on the bottom of a rolling door will reverse a mechanism and roll the door quickly upward the moment it barely touches a car top or a worker's head.

One manufacturer, desiring to keep the way clear between assembly floor and shipping platform, has climinated doors altogether. To keep warm air from flowing out and cold air from whistling in, or vice versa, there is a blower system which provides a constant "currain" of air across door openings. Other manufacturers insist that all windows be kept at a minimum height of 7 ft. above the floor line, so that door openings under them can be changed from time to time to accommodate changes in production routing. One thing for your careful consideration is the provision of separate entrances for men and women employees, seldom necessary in offices, but frequently desirable in factories. Suitable emergency exits will have to conform to factory law and insurance regulations.

Partitions are conspicuous by their absence in modern factory buildings. Factory offices find themselves "out in the open," like any production tool. Where partitions are required in the plant, and the locations can be numerous, the trend is toward light weight, easy movability, re-use, and low maintenance. Favored materials for movable partitions are lacquered, enameled, or porcelain-enameled steel, glass, asbestos, wood-fiber, all in a variety of styles and finishes. Your preference may fall on one of the many makes of acoustically insulated, ready-built partitions with special fastenings for quick assembly and removal. Here, be sure the manufacturer is going to stay in business and keep your particular partitions and fastenings in "open stock."

Partitions-If Any

If your plant requires permanent partitions to house certain secret or highly specialized, and possibly smelly, processes which must be cut off from the rest of your plant, you will probably go in for hollow tile with or without facings. These can be moved and re-erected with little difficulty, if this becomes necessary. Facings, if any, can be good old-fashioned plaster, with or without expanded metal lath, or you might look into glazed tile or stainless steel "tile," both easy to clean. Glass blocks make excellent partitions, since they will pass light from department to department without subjecting secret processes to prying eyes. The blocks may be laid up with mortar or with a new "metal-glass panel" system of extruded bronze or aluminum shapes, which are quick to erect and dismantle.

Power plants are seldom made an integral part of the modern factory. Approved practice seems to call for locating all power sources, including transformer stations for purchased juice, well away from production activities. Underlying reasons are sound, the principal one being that of providing plenty of room for future expansion by adding new production capacity directly to old. Various electrical and thermal insulating materials being what they are today, there is little loss in conveying energy for long distances.

Even so there are conditions, as in large-scale electroplating operations, where it is desirable to provide certain types of current by compact steam or diesel engines, hooked directly to suitable generators. Such are now available in units, mounted on single bedplates to be set up in the production line like any production tool.

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as long lineshafts, can be so designed that shafting is carried in tunnels underfloor just as efficiently as overhead. One comeback to the tunnel is that some poor industrial housekeepers let it become a trap for scrap, refuse, and litter; another, that it complicates changes in location of equipment. Over against that can be cited the fact that the production area will be just as clear of belting as though all machine tools were direct motor-driven.

Overhead or Underfloor

Tunnels to carry lines for electricity, gas, compressed air, water, heat, and air-conditioning refrigerants are likewise called litter-traps by poor housekeepers. But it is plain that they do not cut off light from workers as lines do when they are carried overhead. And the maintenance work is made safer and handier by the fact that the lines can be reached without climbing. Overhead or underfloor, take your choice. You won't be likely to overlook the all-over economies of oversize service lines of all kinds. Such help pay dividends. Plant heating has been simplified in recent years through the development of unit heaters which permit the focusing of heat where it will do the most good. Whether you go in for ceiling, wall, or floor types-steam, gas, or electricity-is going to depend upon conditions. They have recently been hooked up with various air-dispersion devices which are going to overcome complaints of workers who "can't stand drafts." During the hot season, the steam heaters can easily be converted to coolers by the simple expedient of flowing cold water through them or, better still, using a well-chilled brine or chemical refrigerant.

While steam and hot water are both being used to supply heat for various production processes, there is an increasing use of "spots of electric heat" built right into machines and tanks. With carefully welded piping, superheated steam is now carried with safety to processes that require temperatures above the traditional 212 deg. F. And there is a comparatively new closed-circuit system for carrying superheated water. In one plant which heats dozens of molding presses for plastics with superhot water, there is a temperature loss of only 10 deg. or so between inlet water at the boiler and return water at the same point. Incidentally, traps for steam, gas, and air lines will forestall many a maintenance and production headache.

"Good lighting pays its way," is becoming an axiom of industry. How else account for the effort to secure uniform illumination through a windowless plant and similar efforts with all kinds and types of windows, roofs, monitors, and sawteeth? Best artificial lighting practice today seems to be trending toward specialized lighting for particular operations. Few workers can get along without eye-strain with the five foot-candles and less that are all too often found on otherwise modern assembly floors; few workers on precise inspections of intricate mechanisms should be asked to get along on less than 100 foot-candles.

Both groups of workers can easily and economically be given 20 foot-candles of general illumination plus specialized fixtures giving more foot-candles for special work. The new fluorescent tubes, as well as the more familiar mercury-vapor lamps, give more light, watt for

watt, than the older incandescents. In air-conditioned plants, fluorescents become essentials because of their lower heat production and consequent lessened strain on refrigerating equipment. However, until fluorescents become available in forms other than tubes, they will not take care of "spot illumination."

Nor does spot illumination call for a forest of drop cords and gadgets attached to machines. There are plenty of soundly-engineered reflecting and deflecting luminaries which can be placed well off the floor and still spotlight a light-demanding operation. Newest thing in lighting control is an electronic hook-up which automatically turns on lights the moment that daylight intensity falls below a predetermined level. As clouds pass across the sun, on come the lights; as clouds sail on their way, the lights go out. Whatever your lighting layout, daylight and artificial, your engineers will see to it that the production operations, rather than the aisles, get the illumination breaks. Far too frequently, bad planning brings aisles under monitors, leaving machine tools and their operators in the shadows.

Indoor Climate

Air conditioning—summer and winter, ventilation, air filtration, humidity control, dust collection, fume dispersion (as in spray painting and electroplating) find themselves in one large package, though usually considered separately. The hit-and-miss heating and "natural ventilation" of the old days had to give way before considerations of employee health and comfort, facilitated production, and improved product. Palm for the first use of air conditioning in industry probably goes to the textile group which sought to reproduce the natural high humidity of the English climate which facilitated the spinning and weaving of wool.

So skillful have engineers become in the coordination of all aspects of "indoor climate" control, that it is common practice to install heat-treating furnaces, electroplating baths, paint sprays, dip tanks, sandblast equipment, and other former contributors to bad air conditions, right in their proper sequence in the production line. So intricate are some of the problems that they must be put into the hands of engineering specialists of broad experience.



Factory Management & Maintenance

Designed and built around the production and perforation of multiple business forms, the new press shop of Standard Register Co., of Dayton, O., was added to the office building (right) by Austin Co., Cleveland. Since no one manufacturer is known to handle all elements for the multiplex job, it is essential that the various elements be intelligently coordinated.

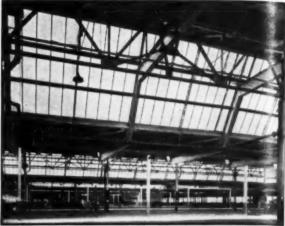
Where cool water is plentiful, much can be saved by its use in summer air conditioning. Refrigerating machines, reciprocating and centrifugal, are available in almost any desired capacity. Frequently, exhaust steam can be harnessed to the cooling job. Mechanical airmoving equipment has long since reached a high state of perfection. Roof ventilators, powered or natural draft, continue to be found on factory tops everywhere. Air filtration, long the exclusive job of various fibrous substances-shredded wood, rock wool, fiber glass, and others, usually kept moist with oil or water and thus more attractive to air-borne dust, pollen, and bacteriais now being supplemented by electrostatic devices which will take out dust so fine as to be measurable only in millimicrons. Used for several years in the glazing departments of certain pottery and porcelain makers, electrostatic equipment has helped pay for itself by recovering expensive glazes.

Dust collection, per se, has been greatly facilitated in the past few years by the introduction of scientific "cyclone" design, new wet or dry impingement collectors, and new textiles for bag collectors which will withstand corrosion and higher heat. Asbestos now finds itself both in partnership and competition with fiber glass, vinyl plastic, and others. Humidity control is now made precise through the development of super-sensitive instruments and automatic controls.

To Get Rid of Fumes

Fume dispersion, as well as air conduction for air conditioning, is now simplified through the introduction of new designs and materials for ducting. The usual metals for withstanding various corrosives-lead, copper, zinc, monel, stainless steel-glazed tile, wood, tile-lined brick and concrete, have now been amplified by cement-asbestos ducting in a wide variety of standard straights and bends. To get rid of fumes arising from spray painting, and at the same time to recover valuable paint materials, the Monarch Machine Tool Co. has installed gratings without booth protection in the production floors. Fumes are sucked down and through a water bath so rapidly that they have no time to disperse their smells through the surrounding air. Where smells are a problem, there are new devices containing activated carbon for installation inside or outside air-conditioning ducts. The carbon does the trick.

Whether or not you go in for air conditioning your whole new plant, or parts thereof, is probably going to depend upon human factors, production factors, and the elasticity of your building appropriation. For ultra-precision machine and tool work, it becomes a must. Wool textile production would go haywire without it. Frequently, as in certain plants producing fine parts like anti-friction bearings, just the humidity control afforded by air conditioning almost pays for itself in rust-free product. If you are locating your plant in a climate with more than 30 days of hot, uncomfortable weather per year, you will probably be dollars ahead in the long run, by reason of the increased efficiency of an air-conditioned factory force. Whether you go into unit conditioning or



Welded steel cantilevers support both main roof and sloping monitors in the assembly plant of Chrysler Corp.'s Dodge Truck Division, Detroit, whose own engineers cooperated with Albert Kahn, Inc., Detroit, in the planning and design of the building.

central conditioning with duct distribution is a problem for your engineers. It all depends upon conditions.

Conveying is intimately tied up with your production layout. Whether you go in for industrial trucks, industrial trains, traveling cranes, jib cranes, gravity rollers, overhead monorails, belts, aprons, or plain human muscle, any permanently installed equipment should be so coordinated with your building design that full advantage may be taken of the building's structural steel framing. Forethought will obviate regretful hindthought in later years.

Fire protection, too, should be planned well in advance. If the job is done on paper, the installation of piping for sprinkler systems and the location of hand fire extinguishers will be considerably simplified. While you are at it, you might just as well look into the desirability of providing piping to carry carbon dioxide for automatic fire fighting. Standpipes and connections for local fire departments should be intelligently spaced and adequately protected against freezing.

Noise Dispersion

Acoustical treatment for ceilings, and sometimes walls in especially noisy locations, can earn its way by facilitating production and improving personnel relations. Headaches come second only to colds in the list of national maladies, and noise runs a close race with bad eyes and upset stomachs as a cause thereof. Frequently, acoustical insulation-cork board, cellular "stone," bagasse board, wood-fiber board, blankets of rock wool, glass wool, natural wool, wood fiber-can be made to do double duty as thermal installation, thus spreading the cost. Already the managers of one new all-on-one-openfloor plant which is just getting into production are regreting the fact that a sudden attack of economy on the part of their directors caused them to eliminate acoustical treatment. The banging of drop hammers is getting on the nerves of both personnel and management.

Facilities for communication should of course be ample,

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whether they be telephones, teletypes, telautographs, "wired radios," factory "hooters," bells, whistles, whathave-you. New acoustically treated, doorless, telephone booths pay their way in correctly heard orders and instructions. There is also a half-booth for installation above the foreman's desk. More or less delicate recording instruments and controls, mounted singly or in groups for coordinated process-control, must be given locations free from vibration and abrupt temperature changes.

Interior color schemes, formerly thought by "he-men" to be applicable only to boudoirs, will call upon you for their fair share of attention. And while you are protecting surfaces with paint, varnish, enamel, or lacquer, you might just as well as not check up on the latest psychological findings and cash in on the benefits of improved morale, plant cleanliness, and production which come along with the package. Several of the large paint and varnish manufacturers have made special studies on the subject and will be glad to give you the fruits of their experience. Consider not only the colors and materials on ceilings and walls, but on floors and equipment. Just a little patch of white paint in each corner will enable your sweepers to see dirt and expectoration which might be lodged there. A clean coating of white paint on the ceiling, or paint mixed with aluminum flake, or the newer nickel flake, may make a vast difference in the size of your lighting bills. Then, too, just a little finely ground cork mixed in with the paint for toilet room walls and partitions will discourage art work and the writing of earthy poetry thereon. Secret is that a pencil point breaks at the beginning of the first "troke.

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Comfort Facilities

Toilet rooms, shower rooms, wash rooms, rest rooms, drinking facilities will all demand your best consideration, human beings being what they are. Handy drinking fountains are time-savers. Your factory laws are going to tell you the minimum number of toilets, but if you remember back to your own shop days, you will recall that the long "morning line-up" can ruin the calculations of the best time- and motion-study experts. Except for the roughest kind of laborers, who cannot be taught to keep their feet off seats, you are going to want and your employees deserve a superior type of porcelain fixtures, with good smooth seats, and in quantities to take care of morning peaks.

If you really have the comfort and health of your people at heart, there is a strong argument for equipping the seats with ultra-violet lamps to prevent crabs, body lice, and other crawling things. Whether your showers are grouped in circles, in semi-circles, or in lines, they are going to be kept immaculately clean and supplied with adequate quantities of hot and cold water, thermostatically premixed if you will. The same goes for lavatory equipment. Lockers should be so placed that damp shop clothing will be ventilated and dried between shifts. Provide adequate mirrors. Given the right kind of sanitary and comfort facilities, it is surprising how both men and women workers will cooperate to keep them clean.

Locations of comfort facilities, as well as emergency first aid stations, are always a problem. Modern practice puts them on mezzanines, up above the flow of production. Somehow the publicity of the climb upstairs makes

for less frequent "smoking." But where it is necessary to keep the facilities at floor level, it is a revelation how quickly a smoke can be consummated when the foreman can see under a partition to the height of a man's shins. The right kind of matron in the women's rest room will perform the same kind of automatic supervisory service. Above all, don't stint on light in toilets. It may encourage reading, but it will pay its way in improved sanitation and morale.

Skimping Won't Pay

When you talk to other executives of vast experience in factory building, you will find one regret to be almost universal. For the sake of a few dollars, at the most less than a per cent or two of the whole cost of a particular project, they have skimped on the size and quality of various adjuncts and services. Leave aside the question of future expansion. There are going to be times when water and gas pressure are low, when voltage has dropped. Just a little oversize in the lines will permit services to get where they are needed despite low voltage and lack of pressure. Just a few more pipe plugs and ready-made electric outlets for large and small tools will frequently forestall big changeover bills when production must be rerouted.

Standardized units of all kinds not only cost less in the first instance but make replacement simple when the time comes. Be just as sure as you humanly can that your manufacturers and suppliers are going to be in business in the far future, when service with a capital "S" or repair parts may be of paramount importance.

After you have laid out the production part of your plant, you have still to provide for offices, cafeterias, auditoriums, if any, recreation rooms. Possibly you will be far in the country and will want to provide outdoor recreation facilities. Possibly you will want to provide landscaping, with well-kept lawns and trees and flowers. That beauty in architecture and surroundings is an asset to any factory can be proved by the most cursory survey among employees, neighbors, and customers. If you follow present trends, you will set up a separate office building, so placed that it will not interfere with future expansion,



As might be expected, corrugated as bestos siding forms the walls of the new Jarratt, Va., fiberboard products factory of Johns-Manville Corp. Engineers: Stone & Webster Engineering Corp., Boston. Contractors: Consolidated Engineering Co., Baltimore.

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Factory Architects and Engineers

It is estimated that the bulk of the dollar volume of new factory building in the United States is designed and handled by a half-dozen firms of architects and engineers. Most lists of those active in this field would probably start with these 17 names:

Austin Co., 16112 Euclid Ave., Cleveland Nimmons, Carr & Wright 333 N. Michigan Ave., Chicago

Battey & Childs, 231 S. LaSalle St., Chicago

Robert & Co., Inc., Bona Allen Bldg., Atlanta

Brown & Matthews, Inc., 122 E. 42nd St., New York

Roberts & Schaefer Co., Wrigley Bldg., Chicago

H. K. Ferguson Co., Hanna Bldg., Cleveland J. E. Sirrine Co., 215 S. Main St.,

Ford, Bacon & Davis, Inc., 39 Broadway, New York 215 S. Main St., Greenville, S. C.

Giffels & Vallet, Inc., 1000 Marquette Bldg., Detroit Stone & Webster Engineering Corp., 49 Federal St., Boston

Albert Kahn, Inc., 345 New Center Bldg., Morton C. Tuttle Co., Park Square Bldg., Boston

Detroit Lockwood, Greene Engineers, Inc.,

United Engineers & Constructors, Inc., 1401 Arch St.,

30 Rockefeller Pl., New York Chas. T. Main, Inc.,

Philadelphia
Wilbur Watson & Associates
4614 Prospect Ave.,

Cleveland

Chas. T. Main, Inc., 201 Devonshire St., Boston

and combine with it recreation rooms and other facilities.

With insurance rates what they are and safety of such paramount importance, you will not linger long over

deciding between fireproof and "slow-burning construction." Even so, there are many production problems that can be solved cheaply and well with a well-designed wood-framed plant. Conditions must govern. If you have a tough time visualizing architectural plans in two dimensions on paper, ask for a three-dimensional model. They don't cost a whale of a lot, and they sometimes assist near-sighted directors in approving of adequate building appropriations.

Winter Building

Don't let the winter deter you from building, if you really need to. It costs so little more with modern materials and equipment, that you can readily lose any saving made by waiting until spring by your inability to ship product and collect for it in the meantime. Whether you elect to do your building with your own organization, or retain outside engineers, architects, and builders, give your nominee your confidence and a big "green light" to go ahead. Contracts, land titles, leases, all legal matters should be placed in the hands of your attorneys, but advise them not to try to extract the ulti-

mate dime. Reputable engineers and builders, men like

yourself with wide experience in the ways of the world, seem to do their best work on a basis which, to an ultralegal mind, may look like the ultimate in legal looseness.

You can have the whole job done on the basis of a flat price, which can even include the selection, purchase, and installation of all production and service equipment. You can work on a percentage basis: so much for engineering, so much for architecture, so much for building. With any number of engineering and architectural firms, you would be safe in saying, "We've got such and such an amount appropriated for such and such a job. Design and erect us a building which will keep within the limit." This is no fairy tale. Some of the biggest and most successful manufacturers, busy on their sales and production problems, have done exactly that with complete satisfaction.

8 a.m. at River Rouge

One interesting variant is the way that Mr. Ford retains the engineering and architectural firm of Giffels & Vallet. Partner Victor E. Vallet is out at River Rouge every morning at eight o'clock to see what is on tap for the day, whether it may be a production layout change or a whole new building. There at the plant he has a force of about 150 men. Except in the case of brand-new buildings, the compensation of his firm is based on the number of man-hours put in by his force. To top it off, the engineers and architects are paid directly by Ford checks.

If contracts are insisted upon by your directors and attorneys, the latter will save themselves a great deal of time and dither if they adopt the standard architectural and engineering forms. These have been used with all around satisfaction for a good many years. Moot points have gone through the courts for adjudication.

On the question of costs, architects and engineers consider it a bit unfair to be asked for estimates on a square foot basis before they have a chance to make a general survey of conditions. Building constructions vary with the climate, the process, the grade of personnel, the degree of sales appeal you may wish in your plant's exterior and interior. Foundation and transportation costs vary with the site. Requirements for mechanical and electrical services, for plumbing and such vary with process, personnel, and type of construction. Building labor rates run higher in the North than in the South, in the city than in the country.

Finally, wherever you build and whatever you build, keep things simple.

REPRINTS AVAILABLE

"FACTORIES FOR THE 'FORTIES" is the twenty-first of BUSINESS WEEK'S special reports to executives. Copies will be available in reprint form. Single copies will be mailed to BUSINESS WEEK readers upon request without charge. Additional copies will be billed at the rate of 10¢ apiece; quantity-order prices by arrangement. Requests for reprints whether for single copies or for larger quantities, should be addressed directly to Willard Chevalier, Publisher, BUSINESS WEEK, 330 West 42nd Street, New York, N. Y.

BUSINESS WEEK

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MONEY AND THE MARKETS

FINANCE . SECURITIES . COMMODITIES

Commodity Dip in Spotlight

Traders believe key to economic outlook may be found in raw materials prices as well as in quotations for stocks and bonds.

THESE MARKETS—inconclusive as they may appear on the surface most of the time—are still charged with tremendous potentialities, which may alter this country's entire financial thinking. Here are some of the factors to look for:

(1) The first sign of strength in commodity prices may mean (a) that domestic business is coming out of its present slow decline, or (b) that European speculators again are buying in the belief that the spring will see large-scale hostilities.

(2) A decline in bond prices would be the signal that the big banks are decreasing their holdings for fear investors may again turn from fixed-income obligations to equities which would share in war profits, and at the same time provide an inflation hedge.

(3) Any important rise in stock prices would indicate that Wall Street was (a) at last taking a constructive view of the domestic business and profits outlook or (b) anticipating the early spread or intensification of the conflict in Europe. If stock prices, however, decline further, it would just confirm the obvious: that

the expected recession is materializing.

Meanwhile, it's not at all surprising that securities should be flighty and that commodities should have sloped off sharply from the splurge that marked November and December. The Dow-Jones commodity future averages started a creeping rise in the early days of November, turned very strong in the latter part of the month, and recorded a rise of 171% before the year end. Now that rise has been a little more than cut in half. The Moody spot average was late in getting started and rose less spectacularly. Its November-December rise amounted to 7.7%, and nearly 70% of that gain has now been relinquished.

Metals' Sag Reflects Conditions

Copper's drop was the highlight of the last few days' news (see next page). But other non-ferrous metals have quietly been giving ground, too. Tin has continued to sag while zinc has been cut another ½ a lb. But in each case, it's simply the result of a stepup in production and the realization in the trade

that plenty of supplies are on hand to meet requirements. Lead was among the few firm spots in the metals.

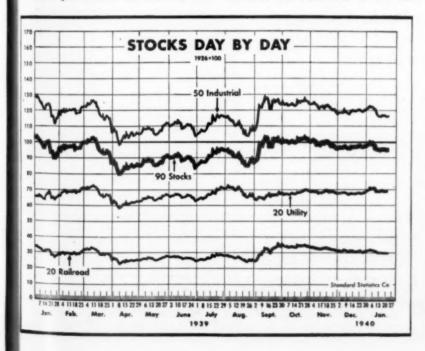
Cotton is a commodity which followed the foreign markets up last month—and down the last few days. The export situation is causing much concern. The British Ministry of Shipping has ordered that Britain's imports of cotton are to be carried in none but British ships. As a consequence, export cotton has been piling up in Southern ports awaiting the arrival of bottoms. Also, beginning next week, British imports of cotton will be restricted to 100,000 bales a month through September.

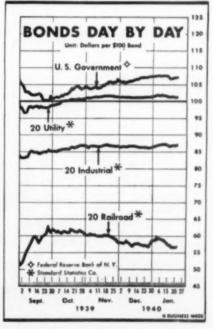
Speculators See Their Chance

As cotton declined abroad, the price disparity of recent weeks was reversed. Instead of the Liverpool market selling far too high in relation to New York, American cotton got out of line. Speculators in Liverpool and Alexandria and Bombay "undid their straddles"—bought foreign cotton of which they had been short and sold American cotton of which they had been long. This aggravated an already excited market.

The new issue market continues active. An offering of \$10,962,000 of 3½% refunding mortgage bonds of Pennsylvania Water & Power Co. was snapped up in short order. In addition, there was an offering of 225,000 common shares for Lockheed Aircraft, which, like many of the airplane manufacturers, has been in the market for new capital.

Also, a subsidiary of Consolidated Edison (New York), the Consolidated Telegraph & Electrical Subway Co., placed \$13,710,000 of debentures with insurance companies at a private sale, and the parent company took \$1,290,000, bringing the issue to \$15,000,000.





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LOEW'S INCORPORATED

THEATRES EVERYWHERE'

January 18th, 1948.

THE Board of Directors on January 16th, 1949.

THE Board of Directors on January 16th, 1940 declared a quarterly dividend of \$1.625\text{per} per share on the outstanding \$6.50 Cumulative Freferred Stock of this Company, payable on the 15th day of February, 1940 to stockholders of record at the close of business on the 30th day of January, 1940. Checks will be mailed.

DAVID BERNSTEIN
Vice-President & Treasure



Fracas over C. & O.

Young complains he's going to be ousted from board, demands that Bailie quit instead.

CONTROL OF THE rich Chesapeake & Ohio Railway this week was in dispute once again and a proxy fight rivaling in bitterness that of two years ago was threatened. Falling back upon the familiar device of letting the newspapers air his troubles, Robert R. Young complains that he is about to be thrown off the C. & O. board by New York banking interests. He demands that Earle Bailie. partner in J. & W. Seligman and leading representative of the bankers on the board, drop out of the running instead.

Mr. Young is in the driver's seat in Alleghany Corp., top holding company in the old Van Sweringen railroad empire, and Alleghany's one gleaming asset is the C. & O. But Alleghany's 25% interest in the C. & O. common stock doesn't do the Young group much good because almost all of it, as collateral for 'Alleghany's under-collateralized bonds, long since was impounded by trustees for the bonds. The trustees won't submit quietly to this stock being voted for Mr. Young in any proxy fight, and they predict he can't pick up the requisite votes elsewhere.

The fight started two years ago when a Guaranty-Morgan-Seligman group, dis-

satisfied with the Young management in the "Van" holding companies, undertook to wrest control of the C. & O. from Im. They deadlocked the election and forced a compromise in which they permited Mr. Young to stay on the board, With Mr. Young, at that time, were the road's officers, but his influence has since dwindled until he admits that today he is a minority of one on the board-and Wall Street gossip has it that his fellow members had decided not to leave him that much of a voice come the annual meeting in April.

Mr. Young's counter-barrage started with the blast demanding Mr. Bailie's retirement from the board. Then, knowing that competitive bidding for security issues has friends in Washington who might be helpful to his cause, he called on the Guaranty Trust Co. to resign as trustee for Alleghany's top bond issue, saying the Guaranty is allied with interests which oppose competitive bidding. (The Guaranty, then trustee for all three of Alleghany's bond issues, led the fight which wrested C. & O. control from Mr. Young two years ago.)

Meanwhile, the hard feelings are highlighted by the decision of C. & O.'s chairman, Herbert Fitzpatrick, not to stand for reelection, citing dissension on the board as one of his reasons.

Copper Price Dips

Domestic buyers their orders as export outlook turns unfavorable.

COPPER PRICES zipped up to 12¢ a lb. just after the outbreak of the war and were marked up to 121¢ early in October. American producers of the red metal in October and November probably booked the largest two months' business in their histories at the 121¢ quotation. But this week the 121¢ market was no more.

During the latter part of last week the price structure began to give way. Sales at 121¢ were common enough, despite resistance on the part of primary producers. and some business apparently was booked at 12¢. As this week got under way the resistance to the decline disappeared. Within a few hours on Monday almost everybody was quoting 12¢ a lb. and business volume was only fair.

Two chief facts emerge in this domestic marketing situation: (1) demand of fabricating industries once again is back pretty much to a hand-to-mouth basis because of worries over the trend of business activity, and (2) production, spurred by the enormous booking late last year. has risen by leaps and bounds to levels which probably are at or near an all-time high. Despite the fact that the copper trade has suffered a certain amount of confusion due to discontinuance of statistics since the outbreak of the war. it is equally clear that purchasing agents

This announcement is not to be construed as an offer to sell or as an offer to buy the securities herein mentioned. The offering is made only by means of the Prospectus and by underwriters or dealers who are qualified to offer at the places where the offering is made.

NEW ISSUE

\$10,962,000

Pennsylvania Water & Power Company

Refunding Mortgage and Collateral Trust Bonds 31/4% Series due 1970

Dated January 15, 1940

Due January 15, 1970

Price 105% and accrued interest

Copies of the Prospectus may be obtained in any state from only such of the underwriters, including the undersigned, as are qualified to offer the securities in that state.

White, Weld & Co.

The First Boston Corporation

Minsch, Monell & Co., Inc.

Joseph W. Gross & Co.

Kidder, Peabody & Co.

Bonbright & Company

Lee Higginson Corporation

Stone & Webster and Blodget

January 24, 1940.

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some time ago sensed the fact that there no longer exists any pinch in the spot market. They began cutting down on their orders, and this more conservative buying policy came right at a time when producers were pondering several rather difficult problems.

Throughout the late months of 1939, the producers had no trouble selling all the copper they were taking out of the ground. Not only that, they were forced to draw heavily on accumulated stocks of the red metal. But export sales were a big factor in that situation.

It shortly became evident that England would be amply supplied by its dominions. Within the last few days, England has revealed the supplies which will be drawn annually from within the Empire under the present program, and copper people estimate that these dominions can produce perhaps 30% more than Britain proposes to take (which would leave a good deal over for France in case French requirements aren't already included in the British figures).

Morality and Interest

Thus the United States can expect little if any market in Europe. So Japan and Russia, which have been the main foreign buyers of American copper for some time, present the logical market for the domestic surplus production. Yet Russia and Japan already are on the "moral" blacklist for several strategic American products, and the copper producers hesitate to do very much business with them. The moral embargo might be extended to copper, and in any event the business wouldn't be in any too good odor.

Thus, when it is conceded that the export market is a vital factor in sustaining present copper production in the United States, and when it is realized that export possibilities are circumscribed, the problem becomes serious. And that takes no account of what Chile is going to do for a market for its output.

FINANCIAL ANGLES

Surprise Audits

Carrying out one of the recommendations of the "public examining board" last August (BW—Sep9'39,p20), the New York Stock Exchange announces that beginning next week member firms will be subjected to surprise audits of their condition. Heretofore, firms were given 10 days' notice of auditing intentions, but from now on they'll know only when they see an auditor in the doorway. Their only privilege will be in the selection of firms to conduct the audit.

Big Board and the Public

IF THE NEW YORK Stock Exchange has any misgivings about the attitude of the public toward it, it now knows why.

Almost one out of every four people think that grain is traded there. Another 8.7% believe that you can also buy and sell livestock there, and 42.4% of the people know that those who run the Big Board also run practically all Big Business in America. Still, only 4.8% think that the exchange is something that we can do without.

Such are the findings obtained from a survey of public opinion conducted for the exchange. In releasing the figures, the exchange says, "They indicated conclusively the need for the dissemination of more information on all phases of [our] work and services."

Silver Will-o'-the-Wisp

FIVE AND ONE-HALF YEARS AGO CONGress instructed the Treasury to buy silver until "one-fourth of the total monetary value of the gold and silver stocks shall be in silver." At that time it would have required 1,300,000,000 ounces of silver, at the statutory price of \$1.29 an oz., to bring that about. The Treasury has been buying ever since. It had built silver stocks to 2,588,600,000 oz. at the end of 1938, and added 341,400,000 oz. in 1939, according to the estimates of Handy & Harmon, bullion brokers. Yet, to present stocks of 2,930,000,000 oz., another 1,590,000,000 would have to be added to bring about the statutory relationship designated in the Silver Purchase Act.

In other words, we are 290,000,000 oz. farther from the goal than we were in 1934. The cause, of course, is the phenomenal rise in gold. At the end of 1938, gold stocks were \$14,512,000,000 and silver represented just a shade less than 19% of total monetary stocks. At the end of 1939, gold was up to \$17,688,000,000 and, despite the year's gain of \$440,000,000 in silver, the ratio had slipped to 17.7%.

New Fees for Trustees

That New Thust indenture act, passed by Congress last session (BW—Aug5'39, p22), takes effect a week from today. And corporate trustees, as a consequence, will have a material increase both in duties and responsibilities to the bondholders. There will naturally be an upward revision in trustee fees in time. But as yet no new scale has been set. It's still in the discussion stage, and corporations planning new financing have an ear to the ground.

Uneasiness in Silk

That tight situation in silk—forcing the price up to \$4.46 a lb. last month—finally reached a climax last week when the Japanese government ordered curbs on domestic consumption and speculation. As a result, regular supplies of silk are to be made available for export. But some in the trade wonder whether the Japanese acted too late. Mill takings of silk in the United States last month—at 21,128 bales—represented the low-



From Mine to Mill to Manhattan

 Blast furnaces can't wait for ore. Foundries can't wait for pig iron. Big steel companies and small steel companies work on close production schedules.

Today, on the Erie, we move the ore from mine to mill. We transport the steel from mill to fabricating plant. And then we carry the finished products to Manhattan and all America. Every movement made quickly, economically. We, of the Erie, are proud of our role as handmaiden to the steel industry.

Steel isn't your line? Then try us with grapes or shoes or lumber—or whatever you ship. We'll give it fast, safe, economical delivery. And chances are you'll save money with the service that's "First in Freight."





est apparent consumption since 1921, and prices here have tumbled. At the same time, there has been further invasion of silk's field by rayon, and even more serious inroads are threatened by Nylon and Vinyon. Meanwhile, the price of raw silk has declined to \$3.26 a lb. this week, after a series of sharp breaks.

Lloyd's of Illinois

ALL IS RELATIVELY quiet along the Illinois insurance front again. An appellate court there has upheld the right of Lloyd's of London to continue doing business in the state. The court fight started two years ago, when a group of American companies charged that Ernest Palmer, director of insurance, had no authority to issue a license to Lloyd's (BW—Apr30'38,p30). For five years previous, the American companies had been casting dirty looks at Lloyd's. Unless the plaintiffs appeal the decision, the fight is at an end.

Executives Turn Editors

MEMBERS of the Association of Casualty & Surety Executives will soon have a new journal to keep them informed of developments in the casualty and surety field. The magazine will devote itself to interpreting the Association's efforts, and will emphasize the arguments in favor of stock company insurance.

RKO Emerges

Radio-Keith-Orpheum Corp. this week emerged—after almost exactly seven years—from the receivership into which it toppled in 1933. Reorganization trustees were ordered to turn over all assets to the new company, and the new company in turn was to pay all claims that were allowed in the reorganization proceedings.

The Old Sugar Battle

AMERICAN SUGAR INTERESTS—the territorials of Puerto Rico and Hawaii as well as those of continental United States—are getting ready to go to Congress for favors. The Sugar Act of 1937 is due for revision in a major particular this year. The restrictions on the amount of refined sugar which Hawaii and Puerto Rico may ship to the United States come up for reconsideration before Feb. 29.

The islands presumably will ask once again for complete removal of restrictions on the amount of their quotas which may be sent to the United States in refined form. Other provisions of the act are to remain in force until the end of 1940, but it now seems certain that domestic beet and cane growers, with one phase of the quota system up for consideration, will try to open up the whole thing.

If they are to be given larger percentages of the domestic market, Cuba's percentage will have to be cut. It's much the same wrangle as in 1936 and 1937, and mainland cane sugar refiners will be out to battle Puerto Rico and Hawaii when they ask larger refined quotas.

BUSINESS ABROAD

FOREIGN TRADE . INTERNATIONAL AFFAIRS . FOREIGN INDUSTRY

War Turns Exports into an Enigma

Tobacco slump and cotton pickup are most spectacular developments for U. S. Orders newly placed or pending point to bigger business with Europe.

FOUR MONTHS OF WAR caused some drastic changes in United States foreign trade in 1939. Certain exports which had been lagging during the first eight months of the year scored tremendous gains in the last four months. Some countries whose purchases from us had been lagging through August rushed into our markets for spectacular quantities of our goods before the end of the year (see table below).

Most spectacular of all these changes growing out of the war—at least from the point of view of value involved—is the disastrous slump in tobacco exports from \$80,000,000 in the last four months of 1938 to a bare \$21,000,000 last fall Though many countries have cut their tobacco consumption, Britain's shift to Turkish tobacco as a part of her vigorous economic war campaign is mainly responsible for the sharp contraction in tobacco sales abroad (see page 58).

Though British Tommies are being forced to change their taste in tobaccos, Lancashire textile mills will still spin American cotton. The jump in exports of raw cotton in the last four war months more than made up for losses on tobacco. Cotton exports for all of 1939 were only

How War Has Affected Our Export Business

Britain declared war on Germany on September 3, 1939. In the last four months of 1939, the character of the buying of many countries changed. Some started to lay in food and munitions supplies; others developed a profitable transit business with belligerent neighbors. The tables below compare our exports for the last four war months of 1939 with the comparable period in 1938. And—to emphasize the effect of war—exports for the first eight (peace) months of 1939 are compared with the same period in 1938.

	1930 Sep	1.—Dec.	% CI	anac
EXPORT ITEMS:		s of dollars)	Last 4 mo.	First 8 mo
Meats and lard	\$16,455	\$15,981	+ 3	+ 15
Leather	5,670	3,906	+ 45	10
Wheat and flour	12,917	17,324	- 25	- 42
Fruit (dried and canned)	23,007	24,940	- 8	+ 1
Leaf tobacco	21,465	80,406	— 73	- 29
Raw cotton	155,475	87,379	+ 78	- 38
Petroleum and products	138,634	125,211	+ 11	- 7
Iron and steel-mill products	103,334	59,485	+ 74	+ 5
Iron and steel scrap	19,694	13,772	+ 43	+ 12
Aluminum	7,885	2,414	+227	+108
Refined copper	35,406	28,165	+ 26	+ 2
Metal working machinery	41,885	34,820	+ 20	+ 13
Motor trucks and buses	18,244	21,572	- 15	+ 2
Passenger automobiles	22,379	33,347	- 33	- 7
Aircraft, engines and parts	46,775	19,443	+141	+ 44
Industrial chemicals and specialties.	34,590	19,681	+ 76	+ 10
	1020 Sep.	tDec.	er (7)	
		s of dollars)	Last 4 mg	First 8 ma
EXPORTS TO:	12 110 110 110	2 07 20112127		
Canada	\$199,840	\$139,382	+ 43	- 13
Mexico	31,816	19,003	+ 67	+ 21
Argentina	32,515	26,383	+ 23	- 36
Brazil	35,390	22,001	+ 61	+ 12
Colombia	19,220	15,099	+ 27	+ 24
Finland	4,623	4,739	- 2	+ 18
France	73,979	47,495	+ 56	+ 25
United Kingdom	191,682	192,362	- 1	- 5
Germany	385	40,600	- 99	- 30
Italy	25,514	19,560	+ 30	- 14
Soviet Union	24,784	19,931	+ 24	- 46
Spain	15,236	3,781	+303	+ 28
Sweden	41,726	24,516	+ 70	+ 29
Japan	95,160	86,786	+ 10	- 11

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Export Markets—Good and Bad

U. S. exports to leading customers in 1939, compared with 1938

10 1939, compared	MICH TAS	0
	1939* (Thousands of dollars)	
TOTAL EXPORTS	\$3,124,314	+2
North America	782,305	+8
Canada	473,302	+5
Caba	81,070	+-7
Mexico	80,827	+36
South America	326,903	+10
Argentina	70,862	-18
Brazil	79,989	+30
Chile	26,638	+9
Colombia	50,662	+25
Venezuela	61,574	+18
Europe	1,262,001	-4
Belgium	64,046	-16
Finland	13,122	+10
France	180,088	+36
Germany	45,390	-57
Italy	58,469	+1
Netherlands	96,120	+0.1
Norway	31,623	+41
Soviet Union	51,797	-26
Spain	26,035	+113
Sweden	92,584	+45
United Kingdom.	498,780	-3
Asia	559,039	+9
China	89,195	+23
Japan	230,660	3
Philippines	99,804	+16
Oceania	79,165	-15
Africa	114,903	-3

* Preliminary.

7% ahead of 1938; for the last four months they were up 78%.

Farm products generally did badly under the first impact of the war. Meat, lard, wheat, fruit, and tobacco exports suffered setbacks after the outbreak of hostilities, while industrial raw materials and manufactured goods made gains, some of them spectacular. Airplane exports, despite the effect of the embargo on shipments in September and October, more than doubled, and aluminum exports—mainly for the vast airplane industries of the Allies—jumped 227%. Sole loss among this group was recorded by trucks, which did better before the war started than later.

British Weigh Decisions

Various customers changed their buyg habits, some of them in unexpected ays. England, for instance, bought less m us in 1939 than in 1938. Even in he four war months, shipments to Britin failed to pull ahead of 1938. This flects the deliberate consideration that ondon has given to each order, and apports the general conviction that Lonon probably will swing into really important buying here in the next few onths (see page 15). France, in conrast, has bought heavily here, and for uick delivery. As a result, shipments to rance during the last four months of the ear were up 56%.

Germany, due to the blockade, is alnost out of the picture except as inreased exports to Spain, Italy, Sweden,

PAIRED WITH THE Leaders FOR STEAM ECONOMY

THE FORD V-8

BY FORD MOTOR COMPANY



Behind the "world's largest industrial plant"—the Rouge Plant of the Ford Motor Company—is the world's greatest industrial power plant, with a capacity exceeding 5,000,000 lb of steam per hr. Like everything else at Rouge, this steam plant must meet the rigorous standards for advanced engineering, trustworthy construction and low-cost performance that characterize Ford products and production methods. For, after all, those who set such standards in their own operations are the first to demand them in their purchases.

Since the Rouge Plant went into operation in 1920, Combustion Engineering has been continuously identified with its boiler equipment. In 1926, C-E remodeled four of the eight original boilers, doubling their capacity. In 1931, two more were replaced by C-E high pressure units (700,000 lb per hr capacity). The last two of the original units were replaced . . . again by C-E high pressure boilers . . . in 1936 and 1939; the 1939 unit is designed to produce 900,000 lb of steam per hr at 1400 lb pressure and 925°F. temperature . . . the present world's records in industrial service.

For, just as the Ford name is a symbol of efficient production, so Combustion Engineering is the pace-setter in modern facilities for low-cost steam supply. Whether your steam demands be great or small—you, too, will find COMBUSTION ENGINEERING ready to plan an installation keyed to your specific needs, and reflecting "leadership" standards in design, construction and performance.

COMBUSTION ENGINEERING

200 Madison Avenue, New York, N. Y.

C-E PRODUCTS INCLUDE ALL TYPES OF C-E BOILERS, FURNACES, PULVERIZED FUEL
SYSTEMS AND STOKERS, ALSO SUPERHEATERS, ECONOMIZERS AND AIR HEATERS

Our Export Trade—Some Ups and Downs in 1939

The figures show that manufactured goods and metals are in growing demand, but that orders for many agricultural products are down

	1939 (Thousand	1938 s of dollars)	% Change
TOTAL EXPORTS	\$3,124,314	\$3,056,824	+ 2
Edible animal products	75,593	69,259	+ 9
Meats and lard	51,955	46,765	+11
Inedible animal products	43,615	42,802	+ 2
Leather and mfgrs	23,309	20,712	+13
Vegetable food products and beverages	236,731	363,193	-35
Wheat and flour	61,380	101,291	-39
Fruit (dried and canned)	46,962	48,821	- 4
Inedible vegetable products	176,333	226,622	-22
Leaf tobacco	63,154	139,180	-55
Textile fibers and mfgrs	358,127	322,965	+11
Raw cotton	239,779	224,315	+ 7
Wood and paper	100,486	94,102	+ 7
Nonmetallic minerals	504,712	490,651	+ 3
Petroleum and products	383,658	388,626	- 1
Metals and manufactures	462,468	362,953	+27
Iron and steel-mill products	234,516	184,294	+27
Refined copper	82,211	74,063	+11
Machinery and vehicles	895,268	848,547	+ 6
Metal-working machinery	117,580	101,657	+16
Automobiles, parts and accessories	253,785	270,389	- 6
Aircraft, engines, parts	116,962	68,209	+71
Chemicals	164,582	128,910	+28
Industrial chemicals	72,475	54,126	+34

and Norway may cover goods actually resold to the Reich.

It is significant that for all of 1939, our biggest gain in exports was to South America. Asia—largely because of increased shipments to China and the Philippines—took 9% more from us than in 1938. Shipments to Europe declined, due mainly to the loss of the big German market and the failure of any of our other big customers to take up the slack.

Doubtful about Japan

Business leaders who are close to the order end of our export business are slow in making predictions for 1940 because of the uncertainty of the war and of domestic politics. But most of them declare that, on the basis of known business being placed now, shipments to the Soviet Union, Britain, France, Spain, and Italy are likely to be large at least during the first half of the year. Japan remains a question mark. Our shipments are likely to be large because Japan is still our third best customer, but there is always the uncertainty of what our State Department may do in the way of restricting trading to force more equitable treatment of American business in China.

Watch Brazil and Venezuela for new market opportunities in 1940. Brazil has recently discovered oil in several fields, and is going ahead with extensive industrialization plans. First big project in the Vargas Six-Year Plan in which United States capital and engineering skill are participating is the development of the country's iron ore and manganese deposits. In Venezuela, the government has announced a new road-building program that is attracting American interest.

Berlin Woos Rumania

As supply situation tightens, Germany must use goods, in lieu of gold, to get more oil.

Berlin (Cable) — Germans read their newspapers and listened to their radios this week with growing anxiety. A dozen or more developments—some big, some small—encouraged the growing fear that the beginning of the "real" war is not far off.

There is still no important activity along the Western Front, but there is at last a full realization among Germans that almost no basis remains for the Nazi-encouraged hope that France could be weaned away from Britain by the blatantly lenient policy of the Reich toward Paris.

In the East there is intensive activity. Last week's record cold, which froze rivers and canals and created one of the most serious fuel shortages in Germany's recent history, has abated but German authorities have acknowledged the seriousness of their fuel situation and are going ahead feverishly with plans to remedy conditions.

Passenger train schedules are being ruthlessly curtailed by the government, and locomotives, freight, and tank cars are being rushed to Rumania and to Poland for additional supplies of oil and coal. With them have gone shock troops of trained railway workers to assure the smooth working of the plan. Troops also line the rail lines to the frontiers of Rumania in order to prevent possible sabotage.

In Rumania, the situation is no less tense for this is the main "front" in the economic war being waged in south astern Europe between the Germans and the Allies.

The Reich's diplomats, experts, and business agents are waging a bitter fight against their Allied opponents. The Germans want oil desperately, but they want many other raw materials too. And to secure them, they need to sell every kind of German product that they can to build up reserves of Rumanian exchange.

Weak in Important Weapon

Weapons in the economic battle along this southeastern front are cash. and goods, and threats. Germany is short on cash. Her money is at a tremendous discount on most world markets. She has little gold to offer the Rumanians, and common sense demands that she conserve this for tighter situations which inevitably are ahead. The British and French, on the other hand, are offering francs and pounds which Rumania is free to spend wherever she can buy to the best advantage.

Until recently, the Germans have sent their highest quality goods to the markets of Holland and Scandinavia where they must compete with quality merchandise from Britain, France, and the United States. Now they are running into this kind of competition from the British in the Rumanian market and are being compelled to divert more and more high quality goods to meet the competition.

Britain has recently shown how effectively her tremendous economic power can be used in this economic war. Imports of tobacco from the United States have been stopped (they amounted to more than \$40,000,000 last year) and the business switched to Turkey in order to bolster the economic situation in this center of the Allies' Near Eastern defense system. Similar weapons are now being introduced in Rumania. There is fear that Allied economic power is great enough that Nazi leaders, in desperation, may yet decide to take by force the oil and other raw materials they need in the southeast.

Soviet Tightens Ties

While Japanese negotiations pause, Moscow strengthens bonds with Bulgaria and Germany.

Moscow (Cable)—Plans for closer Soviet-Japanese trade relations, which were viewed so optimistically a month ago when the Japanese negotiators arrived in the Red capital, looked less rosy this week as the ninth day passed since talks were interrupted while the Japanese awaited fresh instructions from their government in Tokyo. The talks are expected to continue, but the unexpected delay is not viewed optimistically

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by the Russians. Meanwhile the Soviets re pushing out economic fingers in all irections and will certainly be in a tronger bargaining position when talks re resumed than they were when the Sipponese asked for time out.

Meanwhile, a commission of Bulgarian extile experts arrived in Moscow this seek to get the Soviet-Bulgarian trade act in operation as soon as possible. They and the Russians are concluding letails of the plan, whereby the Soviets will ship cotton and wool to Bulgariand later buy back the finished textiles. This departure from Russia's longstanding policy not to import consumers' goods indicates the Russian interest in a Bulgarian tie-up. Additionally, it is a break of the Soviet consumer.

tirlines Reach Out to Neighbors

Another indication of the seriousness Soviet-Bulgarian cooperation was the uguration of a Russian airline between fa and Moscow last week. Two other services to foreign countries have o been put in operation. One forms a e between Russia and China; it runs om Alma-Ata, the capital of Ka-khstan, which lies close to Russia's stern border, to Urumchi, the capital Sinkiang province (BW-Jan13'40, (4). Four flights monthly in each direction of the Soviets and Chinese. The er is the long-anticipated Moscowrlin line. When the first German comrcial transport plane arrived in Mosthis week its crew was treated with ch diplomatic courtesy. It was met by epresentative from the Foreign Affairs missariat and later the crew was ed and dined at the Spiridonovka ce-scene of the most important dipmatic receptions.

oviet Oil for the Reich

Authoritative German circles in Mosw say that around half the total oil duction from the Galician fields, which issa took over when it moved into land, is being sent to Germany—via ak cars. They also say that when the nube thaws in the spring Germany I get oil from the important Caucasian ids, where new wells have just been number into production. The German number is understood to have then a Soviet promise of around a lion tons of oil annually, which will be tried in German lighters.

Delivery of a new flagship for the viet Merchant Marine was made last it by a Dutch shipyard that is conucting at least two more large vessels Russia. The flagship, which has been ned for Stalin, is a boat of 8,600 tons h 20 knots top speed. It is powered a turbo-electric motors (12,800 h.p.) has accommodations for 508 passers. The "Joseph Stalin" will be red in freight and passenger service the North Russian areas. The same

A Business Machine

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shipyard has already launched the "Vyacheslav Molotov," a sister ship which will be delivered soon.

Most important announcement this week to Russians was the revision of production norms and piecework rates in the machine building and metallurgical industries. Norms were upped 20% to 30% while piecework rates were cut 5% to 10%. Purpose is to increase the productivity of labor, and cut labor costs.

From the international standpoint, the plight of American fur buyers in Moscow is news. They have had a tough transport problem for their purchases since Jan. 5 when their ordinary trade route via Murmansk was cut off by official order. No official explanation of the prohibition has been offered as yet and the \$15,000,000-a-year American traffic in pelts is now being shipped mainly from Odessa.

WAR BUSINESS

REGULATIONS . WAR ORDERS . TRADE CONDITIONS

Sales to Soviet Hit

Protests about U.S.S.R.'s rubber and tin purchases, plus moral embargo, worry exporters.

In the excitement of moving to new headquarters at 200 Madison Avenue in New York City's still fashionable Murray Hill district, officials of U.S.S.R.'s Amtorg Trading Corp. found little time to parry questions about the various attacks that have been made on the Soviet Union in this country in the last few weeks. But business is watching de-

velopments closely for the Soviet Union is still one of this country's big customers. With German trade already out of the window, much of our Eastern Enropean business vanishing, trade with Japan (our third best customer) uncertain following the lapsing of the trade pact on Jan. 26, and orders from the Allies developing much more slowly than had been anticipated, executives are concerned over this new complication in an important market.

Three developments drew attention to the situation. The first was the move by the State Department in December

The War Week in Business

At Home

Diplomacy

With the expiration of the Japanese-American trade treaty this week, commercial relations between the two countries were put on a day-to-day basis by the State Department. The resulting uncertainty over future trade is an indication of the tough attitude the American government was expected to take (BW—Jan20'40,p47). The plight of American business in China—as a result of Japanese military penetration—is the United States' real concern and stringent regulations on Japanese-American trade may be used to restore the Open Door Policy.

Foreign Loans

In a letter to Congress, President Roosevelt has suggested that the resources of the Export-Import Bank be increased. He did not specify the size of the increase, but government authorities are understood to favor an additional \$100,000,000, which would double the bank's lending power. The bank's original lending authority will soon expire. The prospect of extending aid to South American countries interested in increasing their trade with the United States is the main argument for prolonging the bank's life.

Trade Conditions

United States Steel Corp.'s report on common and preferred stockholdings for the final quarter of 1939 illustrates the extent to which British liquidation of American investments is going on. The English have surrendered about 22% of the common stock they held in the company as of Sept. 30.

Apparently with an eye to the booming aviation business bred by orders from the Allies, Goodyear Tire & Rubber Co. embarked this week on an extensive program for the manufacture of airplane parts and accessories. Once the American center for the production

of lighter-than-air craft, the company has changed the name of its subsidiary Goodyear-Zeppelin Corp. to Goodyear Aircraft Corp.

Analyzing foreign-controlled industrial enterprises in America for the Temporary National Economic Committee, Dr. Amos E. Taylor of the Bureau of Foreign and Domestic Commerce reported that, at the end of 1937, England's share (\$833,343,000) was 44% of the total and that Canada placed second.

Shipping

The sinking of the British destroyer Exmouth, with the loss of all hands on board, was announced by the British Admiralty. The Exmouth was the second destroyer to be sunk this week and, all told, the British have lost five. The total of acknowledged British naval losses is 82,088 tons.

War Toll of Merchant Ships

	T	d Through his Week 43 Days)	W_{0}	d Through tek Before Last 29 Days)
	No.	Tonnage	No.	Tonnage
British French Neutral	144 13 112	538,272 58,742 324,558	132 13 95	489,206 58,742 277,478
Total German	269 26	921,572 140,017	240 23	825,426 129,669
Grand Total.	295	1,061,589	263	955,095

War Orders

Of the unconfirmed reports circulating in official circles this week, the following were too big to be ignored:

(1) that the British are getting ready to buy a billion dollars' worth of war materials here and are trying to get the dollar exchange that such a scale of operations would require; (2) that the British Purchasing Commission is negotiating for 120 pursuit planes (so far the British have concentrated on trainers and bombers, have bought no pursuit ships); and (3) that the British have bought 50,000 pieces of sole leather. Allied buying is said to be

largely responsible for the 45% gain in leather exports in the last four months of 1939.

-And Abroad

Great Britain

Sir John Simon, Chancellor of the Exchequer, announced the government's policy this week on the 4½% conversion loan of 1940-44, on which ers can have cash if they want it or can take a new short-term conversion loan at 2%. The new loan will be redeemed July 1, 1945. Holders who do not ask for cash will automatically have their funds transferred to the 2% loan after Feb. 8, 1940.

As part of the Board of Trade's procedure to regulate the price of lard, bacon, and ham, the import of these commodities has been put under license control. The Board of Trade's average commodity price index number for September through December was almost 12% higher than the average monthly figure for 1938. This steep increase is causing official concern but as yet no coordinated effort has been made to regulate price trends.

Germany

A new trade treaty between Germany and Hungary was completed this week, calling for the increased export of foodstuffs to the Reich. Germany will continue armaments shipments to the Hungarians. French-Hungarian trade pact talks are scheduled to be held within the next two weeks.

Italy

After Feb. 1 the Italian excise tax will be abolished, but in its place there will be a new 2% tax on business turnover. A ½% levy on net capital holdings, announced last September, will be collected Feb. 8. The total Italian budget for 1940 is around 35,000,000,000 lira (\$1,767,500,000), 31% of which will go for military expenditures.

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Thanks... but if you're talking about magazines... leave BUSINESS WEEK out. Our fire isn't the wild kind at all. It's slow and steady and persistent.

It's true we've gained a heap of advertising lineage in the last five years . . . going from 752 pages to 1269, up 68.7%! . . .

It's true we've gained in circulation . . . going from 93,000 to 112,000, up 20%! . . .

But we've done all our growing year by year. There haven't been any pushes, there haven't been any scrambles

And that's the way we'd rather have it. That's the way to keep from bulging at the seams. That's the way you make friends, instead of fly-by-night acquaintances . . . that's the way you produce results, instead of hypnotizing just with promises.

So we're going to keep right on operating under the same old motto.

We're going to keep on reporting the news of business for business. We're going to keep on examining . . . diagnosing . . . interpreting this business world of ours and reporting on what may happen Tomorrow—rather than what became of Yesterday.

In short, we're going to guard for BUSINESS WEEK the place it already has as the one weekly magazine that's all business.

And we're going to concentrate on keeping the friends we have already . . . and making new ones as the months roll by!

BUSINESS WEEK

Active Management's Magazine

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January 27, 1940

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placing a moral embargo on exports of aluminum and molybdenum to Japan and Russia.

A few weeks later, Washington extended this moral embargo to cover equipment and technical advice for the building of special refineries in Russia and Japan to produce high-test gasoline used in aviation. This hit Russia more than Japan, for the Japanese have been building their refineries with German aid and using German patents. One of these American-built special refineries is said to have been completed in Russia; another for general gasoline-cracking is still under construction. Reports late last week indicate that 30 American engineers who have been in the Soviet Union supervising various oil refinery projects will return immediately. The Soviet Union is one of the world's biggest producers of oil, but refinery capacity in the high-test line is limited.

Protest Big Soviet Buying

The third incident which has stirred both business and official Soviet interest is the protest by Washington defense authorities that huge Russian purchases of rubber and tin in this country have caused a tightening of our market and threatened our supply of these two strategic commodities. Amtorg officials stopped long enough in the midst of their moving this week to deny that they had bought any rubber here in many weeks.

Outside the oil business and one small machine tool contract in Milwaukee. there has been no other cancellation of Soviet orders in this country. Purchases through the Amtorg continue at a fairly high figure. In September, they ran to \$15,000,000—highest month in 1939 (BW-Oct28'39,p53). Included then were orders for nearly \$8,000,000 of heavy machinery and machine tools, \$3,000,000 of metals (including aluminum, copper, and steel, and more than \$2,700,000 of chemicals and rubber).

Russians Have Money in Bank

Since September, Soviet orders are said to have averaged \$10,000,000 a month. Only raw commodity bought in significant amounts is said to have been copper. Otherwise, the orders are mainly for machinery, and for electrical, oil refinery, and mining equipment. The Soviets continue to meet all of their obligations here regularly and to maintain reassuring balances in New York banks.

To date, these are the only realistic indications of Washington's official displeasure with Moscow. But the hundreds of businesses in New York, Pennsylvania. Ohio, Illinois, Connecticut, and Massachusetts who have been doing a profitable business with the Soviets for many years are watching each move closely. Simultaneous restrictive measures on Soviet and Japanese business would have serious repercussions on many lines of American business.

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RECENTLY THE FILM-CRITIC of a New York newspaper was reviewing the 1939 screen. In the course of his piece, he said this:

With the opportunity of a life-time at its disposal, not one genuinely sincere or courageous contribution was made by the cinema in the interest of humanity. In an era when civilization reached an unbelievably low ebb, when bigotry, hatred and greed ruled, the opportunity to strike out furiously on behalf of mankind was ignored * * * But all that is past now. However, it is hoped that the creen will continue its admirable entersinment and scientific progress but that it will, too, realize the power and influence it can exercise in the cause of umanity."

It sounds fine-but what does it mean? By whose standard is a "sincere or courageous contribution" to be judged? Strike out furiously on behalf of" what in the interest of humanity and manind"? Exercise its "power and influence" n behalf of whose idea of what constitutes the cause of humanity? The ritic's? The producer's? The scriptriter's? The censor's? Or whose?

All of which is nothing more or less han an appeal to use the movies as an strument of propaganda. Unfortuately, both the movies and the radio are subject to constant pressure from this oup or that to "strike out furiously" in behalf of this or that-and, naturally, not always the same this or that. But, be critic's criticism notwithstanding, if he movies and the radio know what is good for themselves and for the American cople, they'll resist that pressure from hatever quarter and stick to their jobwhich is not to "strike out furiously" in chalf of anything.

Writing in the Saturday Evening Post cently, W. Somerset Maugham had this o say: "Literature is an art. It is not philosophy, it is not science, it is not sotal economy, it is not politics; it is an rt. And art is for delight." That goes for e popular movies, too. They too are for he people's entertainment and delight. They should stick to that job.

fiction as College Texts

WHICH REMINDS ME of an item I noticed he other day in the "Book Notes" colin of a daily newspaper:

"City College is using John Steinbeck's ry of California migratory workers, The Grapes of Wrath' as a text in the troductory sociology courses."

There you have it! Now if the college adopt Jonathan Swift's "Gulliver's ravels" as a text in geography, Lewis Carroll's "Alice in Wonderland" as a text in natural history and the Soviet Union's account of "Finnish Aggression" as a text in European history, its students will begin to get educated-according to some current notions of education.

This is a good example of what the movie-critic is asking for-the use of the arts for propaganda. Fiction writing is an art. And when fiction is perverted to propaganda we have a particularly insidi-ous form of it. Because stuff frankly labeled as fiction isn't hampered by facts at all. The writer just mixes fact and imagination at will.

So-called social propaganda is especially prone to such methods. That is because the human animal seems to revel in tales of human distress, to thrill over the age-old saga of man's inhumanity to man. We just eat them up.

Probably the psychologists know why that is. But whatever the reason, the propagandist surely knows how to use it. So does the writer. He digs deep in the dirt in search of a best seller. He picks up some case-perhaps founded in fact embroiders it to the current taste, sprinkles it with a dash of smut to appeal to those who like their realism raw, and dishes it up hot as "a gripping novel of modern American life." He has a book that will sell.

Whereupon the "liberals," fellow-travelers and left-wingers-be they bookreviewers, public officials or downright agitators-seize upon this piece of "creative art" as manna from heaven, ready to serve. And in no time, the carefully selected incidents, the ghastly highlights, the morbid imaginings of the "creative" writer have become facts. Even worse, they become typical. A whole stratum of society becomes "underprivileged," a whole region becomes the "nation's number one problem," a whole group of employers become "princes of privilege," a whole segment of middle class homeowners become "smug reactionaries," indifferent to the well-being of their fellowmen. Just like that!

All this is not intended to belittle the sore spots that are all about us or to disparage the efforts of those who are sincerely laboring to clean them up: I know that the American system, like every other system yet conceived by man, is not perfect. But it is intended to say a word against the efforts to dramatize the sore spots and smear the system by perverting the arts that should be devoted to the delight and entertainment of the people. And if some of the people like their entertainment pretty grim, there's no reason why we should use the books that are written to serve them as text-W.T.C. books to educate the young.

Too Tired?

So you just want to flop in an easy chair after your day's work? Don't sap what little energy you have by taking quick-action stimulants. Build up your endurance again. Here is a simple new way. It has been found amazingly effective for women and men.

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HOW TO TAKE: Empty 1 envelope (14 pkg.) Knox Gelatine in 34 glass of water or fruit juice, not iced. Let liquid absorb gelatine. Stir briskly... drink before it thickens.





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BUSINESS WEEK

With Which & Combined The Magazine of Business

January 27, 1940

A Bargain's a Bargain

No MAN can say with certainty what action Congress will take to amend the Wagner Labor Relations Law. It would be foolhardy to predict that, in an election year, politicians will take any positive action on such critical legislation. But of the continuance of the "conservative swing" of public opinion, until the average man and woman thinks that fair rules have been established, there can be little doubt.

While Congress hesitates, for political reasons, labor and management, for business reasons, can do much to improve the situation that the government has sought to regulate. We have now reached a point where reconsideration is important to them as well as to the legislators.

Since 1935 the nation has witnessed a spread of collective bargaining under great stress and at the cost of many mistakes. In some cases, determined force has been met by determined resistance. Occasional jubilation among employers and among employees has been mixed with bitterness over losses sustained by both. The public has sometimes found occasion for alarm at the truculence with which these supposed capital-labor partners have come to the conference table. The new deal in labor has passed out some pretty sour cards.

Now we seem to be in a period of pause, with the first wave of organization subsiding. Outright battles over the acceptance of collective bargaining are becoming infrequent. Labor contracts in unionized industries are tending to be renewed without serious trouble as their termination dates arrive. But they need re-examination by both sides.

A good many of the labor contracts born during the past few years have been simply hasty treaties designed to end battles, little calculated to strengthen the mutual respect of the contracting parties or to promote progressive industrial relations. Most of them have merely recorded concessions by employers, They have given labor organizers something to crow about and the unions have felt their swelling power. But, on sober second thought, responsible labor leaders have found reason to wish that the bargaining had resulted in a very different sort of agreement. Contracts in which the employer has conceded everything, the employees nothing, have had only the short-term value of ending outright disruption of production. Their inherent weakness has been that they promised nothing for the future but dissatisfaction and disillusionment.

For mutual respect, both parties to a business contract should be in the position of guaranteeing certain performances. That is the essence of true collective bargaining. A proper bargain is one that balances promise against promise, brings to each side a healthy satisfaction in having traded valuable things for equally valuable things. On this test, our yaunted labor contracts fall far short of the mark.

Thoughtful labor leaders are learning this and are seeing that it is not to the advantage of the unions themselves to seek one-sided contracts. Our short history of labor organization proves that the most successful unions, the ones that have gained respect in their industries, among employers and with the public, have been those that have brought to their members and inscribed in their contracts a sense of responsibility and a high regard for the promotion of the businesses they serve.

This is a point on which the employer should insist when he comes up against a demand for renewal of the law that has been laid down for him in a labor contract. If such contracts are to mean anything for the future of labor relations in America, those one-sided treaties written to end wars must be converted into agreements on mutual responsibilities.

The "unionized" employer, remembering that, after all, his employees are his employees—union or non-union—can help to bring this about by the counsel he can give them in the development of true collective bargaining. However, it demands also a conversion in labor leadership—from organization and agitation to administration—and on this, more than on the Wagner Act or anything else, depends the progress of American labor in the critical year 1940. How important this problem is you can learn from any employer who is trying to make the best of unionization, from any good labor leader who will talk off the record—or from the trend of public opinion.

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